

UMASS/AMHERST



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✓ **Division of Regulatory
Services FY '96**
✓ **Annual Report**

✓ **MASSACHUSETTS DEPARTMENT
OF FOOD AND AGRICULTURE**

Executive Office of Environmental Affairs

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Overview and Summary

The Division of Regulatory Services consists of the following Bureaus.

Pesticide Bureau - Brad Mitchell, Chief

Bureau of Animal Health - Anne E. Mann DVM, Chief

Bureau of Farm Products and Plant Industries - George Porter, Chief

Each bureau's detailed report of activities is included in this Annual Report of the division and must be read carefully to fully appreciate the fine work that the bureau's have accomplished in FY '96.

Some of the highlights in each bureau are:

Pesticide Bureau

1. The Pesticide Bureau enjoyed a successful year with a notable reduction of licensing complaints compared to FY '95. This reduction indicates that the bureau is continuing to make great strides in education and customer relations.
2. Registered over 9,000 pesticide products and licensed over 6,500 pesticide applicators in the fiscal year.
3. Successful in making modifications to the following regulations. The regulations have gone through the hearing process and have been fully promulgated.
 - A. Notification Requirement for Aerial Application of Mosquito Larvacides
 - B. Sign Posting Requirement for Agricultural Aerial Applications
 - C. Sign Posting Requirements for Restricted Use Pesticides
4. Several significant accomplishments were made in the Integrated Pest Management (IPM) area:
 - A. Published a training kit for building managers

B. Established a Non-Agricultural IPM Advisory Council

C. A record number of 51 growers signed up with the Department's "Partners With Nature" program. There were 34 growers signed up for the program in the previous fiscal year.

D. The Department's IPM Interdepartmental Service Agreement (ISA) with the University of Massachusetts was set at a support level of \$245,000.00.

The remaining \$17,000.00 of the total \$262,000.00 allocated by the legislature for IPM was kept by the Department for our in house IPM efforts. Five thousand dollars of the \$17,000.00 has been allocated for the development of a homeowner IPM turf manual.

5. A total of 24 days were set aside throughout the year to give pesticide exams at several locations across the state. The number of exams being held each year is now balanced with the demand. All persons wishing to take a pesticide applicator exam are accommodated within a reasonable time frame.

6. The Rights of Way program continues to expand with additional utilities, railroads and pipelines submitting applications and operating plans. This program is very important to the participants. It shows their interest in using environmentally friendly approaches to controlling vegetation in the rights of way by making people aware of this work and thereby gaining public support for the activity. Their cooperative effort with the Bureau has created a program about which everyone is enthusiastic.

7. The U.S. Environmental Protection Agency (EPA) grants continued for FY '96. These grants are applied for each year and are very helpful to the Bureau, enabling it to fully implement its programs. The pesticide laboratory at the University of Massachusetts in Amherst is partially supported by the grants.

8. The enforcement, certification, worker protection and product registration sections of the Pesticide Bureau each completed their tasks in a very professional manner throughout the fiscal year. I believe you will enjoy reading of the diversity of activity in their individual reports.

Bureau of Animal Health

1. The Bureau of Animal Health had a rather tough FY '96. Dr. Peter McArdle resigned his position as Chief of the Bureau in November 1995 and the position was not filled until March 1996. The department was most fortunate to obtain Dr. Anne E. Mann for the position as Bureau Chief. Dr. Mann is off to a fine start. Dr. Mann has made many program adjustments with an eye to improve the Bureau's overall animal disease surveillance and elimination efforts.

2. After working for over two years, the pet shop regulations review committee completed their assignment. The updated regulations for "The Licensing and Operation

of Pet Shops" were heard at two public hearings and reached full promulgation on September 8, 1995.

3. Legislation was passed in May which makes the following adjustments in Chapter 129 Section 44 and 44A.

A. All equines coming into Massachusetts must now have a certificate dated within one year of entry, from a USDA approved laboratory, certifying that the animal is negative for equine infectious anemia by a method approved by USDA for detecting the disease.

B. Allows the department to accept any test for the detection of equine infectious anemia which is approved by USDA for the detection of the disease.

4. Licensed 232 pet shops in FY '96. A proactive campaign was carried out with the pet shop industry in the Bureau's ongoing efforts to assist pet shops to comply with the newly promulgated pet shop regulations. Extensions of time were allotted for the shops to gain compliance in the area of constructing a proper isolation room for sick animals.

5. Invited all Massachusetts swine producers to a meeting held at Tufts University, Grafton, MA in March. Many Massachusetts swine producers attended along with several officials from USDA. The meeting was held to gain the full support of the Massachusetts swine producers in the Bureau's pursuit to eradicate pseudorabies in swine. The pseudorabies eradication program is a joint state-federal program and Massachusetts is currently at stage III. Stage V is the goal which would indicate that the Commonwealth is pseudorabies free.

The swine producers voted 100% in support of the program and the Bureau is now pushing ahead with the blood testing of Massachusetts swine herds. Herd owners with pseudorabies positive swine are asked to eliminate them from their herds by sending them to slaughter. Cooperation has been very good, however it is expected that it will take at least two more years to reach stage V.

6. The rabies program continued throughout FY '96 with reports leveling out somewhat, however there was an increase in rabies incidents in some areas that first reported rabies in 1992. The major decimation of the raccoon population in some areas early on in the epizootic's progress resulted in few reports from these areas for the last few years, however reports increased in these areas in FY '96 as the raccoon population rebuilds. The new animals contract the disease and the cycle continues. The rabies report contained in the Bureau of Animal Health report provides more details.

7. The poultry program began a much needed updating of the poultry regulations. When completed the regulations will accurately reflect the needs of the industry to meet the requirements of other states and the marketplace. Dr. Mann has worked hard with the poultry staff members and the related programs with an eye to put new life into their

activities.

8. The annual animal inspector meetings for all town and city animal inspectors were held in the Fall at four separate locations across the State. These meetings are very helpful to keep all animal inspectors up to date on animal disease activities in Massachusetts. The animal inspectors are indispensable to the Bureau since they work with all local animal incidents on a daily basis. They report all quarantine and release activities to the Bureau.

9. The tuberculosis program continued on in good fashion with a focus to have all dairy herds tuberculosis tested every three years. Brucellosis surveillance activities continued with the major vehicle of brucellosis identification being the milk ring test. These tests are carried out at the Hatch laboratory at the University of Massachusetts in Amherst.

10. A strong cross training effort is underway in the Bureau to improve the effectiveness of their total efforts and to increase the response capability to the customer.

Bureau of Farm Products and Plant Industries

1. The Bureau of Farm Products and Plant Industries had a very successful year. It was the first complete year of operation as a merged bureau.

All staff members worked well together and there was some cross utilization of staff to more effectively implement the Bureau's programs.

2. The Apiary Inspection Regulations were reviewed and updated. After going out to public hearings at two locations they reached full promulgation on September 8, 1995. The apiary industry is in full agreement with the regulations and is pleased that the regulations have been updated.

3. Legislation was passed in May which makes the following adjustment in Chapter 94 Section 109:

A. The Controlled Atmosphere Storage requirement for apples was lowered from a minimum of 90 days to a minimum of 60 days required holding time before sale.

4. The Bureau has started on the complete review of the Plant Pest Control Regulations plus the many other regulations such as feed, fertilizer, lime, seed, potato and apples in the farm products section of the Bureau which will all be updated in FY '97.

5. During FY '96 the Bureau:

A. Registered 1,850 fertilizer products, 4,560 feed products and 60 lime products. Product registration activities continue to increase as a continual stream

of new products come on the market and previously unknown products are uncovered and registered. This activity results in an increasing revenue stream to the General Fund. These figures are revealed in the Bureau of Farm Products and Plant Industries section of the annual report in this document.

B. Inspected and licensed 279 nurseries/greenhouses

C. Licensed 872 agents who buy and sell nursery products

D. Inspected over 1,000 apiaries

6. Worked with the maple syrup sample collection and maple producer advisory program in conjunction with the Department of Public Health (DPH) Laboratory at Jamaica Plain which analyses the samples.

Fifty maple syrup samples were collected and delivered to the DPH Laboratory. The focus of the program is to assist and guide the maple producers in their continuing efforts to lower the lead content in maple syrup. Progress is being made as the producers make improvements in their operations.

7. In the area of cross training, three Bureau inspectors were certified by USDA to issue "Federal Phyto Sanitary Certificates". Previously only one staff member in the Bureau could issue these certificates.

8. The bidding process for the Bureau's feed, fertilizer and lime sample analysis work resulted in a change of laboratories for the FY '96 work. Spectrum Analytic, Inc. located in Washington C. H., Ohio was the winning bidder out of five laboratories which made bid submissions. A maximum amount of \$24,000.00 is allocated for the sample analysis work. The breakdown of the numbers of samples analyzed along with the results are detailed in the Bureau's report.

9. Strong demand continued for the Bureau's grower inspection programs at markets of the Pioneer Valley Growers Association (PVGA) and the Coastal Growers Association (CGA).

10. The store inspection program to enforce the Branding Law, the Apple Inspection and Certification Program, and the Controlled Atmosphere Storage Program were all carried out in a fine manner with good cooperation from those being regulated.

Conclusion

All Bureaus within the Division of Regulatory Services are congratulated on their continuing efforts to participate in Department of Food and Agriculture events. Enthusiastic support was given at the Flower Show, Earth Day, Five Vegetables a Day Show, Sweet Corn and Tomato Festival, Strawberry Season Launch at Sunshine Farm, Cider Contest, Partners With Nature Recognition Breakfast and the Department's Marketplace event at Elm Bank. These combined effort events show true departmental

cooperation and an increased spirit of putting our best foot forward for Massachusetts Agriculture.

Throughout FY '96, staff members in the Division of Regulatory Services took various training courses and seminars to enhance their effectiveness in carrying out their responsibilities and their interaction with the customer. The Division is very supportive of any staff member desirous of increasing their knowledge. We want each staff member to reach full potential and be all that they can be.

In conclusion, I wish to convey my personal thanks to all Division Staff Members and all others outside of the Division who have provided such great assistance in FY '96. Commissioner Healy has continued to do an outstanding job of leading the Department in a professional, consumer friendly fashion. We thank him for his continuing guidance and support.

Respectfully submitted,
David L. Sheldon
Director
Division of Regulatory Services

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Bureau of Farm Products and Plant Industries

Introduction

The Bureau of Farm Products and Plant Industries had a very successful year. Demand for inspection of farm products, nurseries, greenhouses and apiaries was very high. These quality-control programs have proven to be extremely popular with growers, farmers, shippers, sellers, buyers and consumers as demand for high quality products continues. The Bureau's staff consists of the following personnel:

Personnel

Name	Position
George Porter	Bureau Chief
Phyllis Michalewich	Marketing and Product Utilization Specialist III
Alfred Carl	Program Coordinator I
Robert Rondeau	Marketing and Product Utilization Specialist III
Ellen Rivest	Marketing and Product Utilization Specialist II
Howard Vinton	Marketing and Product Utilization Specialist II

Privatization of the Bureau's Feed and Fertilizer Analysis Program has gone well, proving to be beneficial to the farmer and animal owner. The successful bidder for testing the feed and fertilizer samples was Spectrum Analytic, Inc., of Washington C.H., Ohio. Privatizing has proven to be a substantial savings for the Department. The Bureau of Farm Products and Plant Industries also administers a diversified quality-control program for farm products, including the Federal-State Fruit and Vegetable Shipping Point Inspection Service. It also enforces Truth-in-Labeling Laws for commercial animal feed, pet food, seed, fertilizer and limestone; regulates certain produce branding, labeling and storage laws; and collects more than \$400,000 annually in product registration and inspection fees. The Voluntary Maple Syrup Lead Testing Program has proven successful among the producers as many of them have reduced the lead content by improving and up-grading their operations. In addition, the Bureau publishes a weekly wholesale "Apple Report." This report includes all of the detailed information on prices and storage holdings by important varieties. Emphasis was placed on Macintosh movement. The "Apple Report" has proven very helpful to growers, packers, sellers and roadside stand operators.

The Bureau administers the inspection program of nurseries and greenhouses. Inspections are made annually, certifying the nurseries throughout the state. An agents' license is issued to those who buy and sell nursery stock from certified nurseries. State and Federal Phytosanitary Certificates are also issued for shipment of plants and plant materials to other states and foreign countries certifying the shipment insect and disease free. Apiary inspections are made annually on thousands of bee hives for control of diseases and mites. This inspection enables the transportation of thousands of bee hives from one state to another. The Bureau collected \$34,020 dollars through inspection fees and licenses.

The Bureau of Farm Products and Plant Industries field staff are now fully trained and licensed by the U.S. Department of Agriculture which allows them to perform effectively and issue Federal Certificates and Phytosanitary Certificates attesting to the quality, condition and grade of Massachusetts produce and product shipments. In addition, the inspectors analyze and test controlled-atmosphere apple storage rooms, sample hundreds of feed, pet food, fertilizer and lime products for testing at the Spectrum Analytic, Inc. Lab in Washington C.H., Ohio. They also inspect and regulate produce at wholesale markets, retail stores and farm stands for conformance to certain labeling and branding laws; keep accurate records of such transactions; and perform other related duties as required by the Bureau.

Fruit & Vegetable Inspection

Increased demand for our inspection services was weighted heavily toward exporting apples, primarily those shipped to the United Kingdom and Canada. Apples were also inspected for shipment to California where demand has been increasing. In total, more

than 149,750 bushels of Massachusetts apples carried federal-state inspection certificates for export. Vegetable inspection at the Pioneer Valley Growers Association (P.V.G.A.) in South Deerfield, MA and the Coastal Growers Association (C.G.A.) in Westport, MA continues to increase steadily which has proven to be very helpful to the farmer, shipper and buyer. Demand by the consumer for top quality produce has proven that this inspection service is essential.

The export apple inspections are of major importance, primarily because of the demand for controlled-atmosphere (CA) stored apples, including our valuable Macintosh variety and quality packs. Macintosh apples cannot be grown successfully in European countries. The CA method of storing apples greatly lengthens the marketing season, allowing shipment of apples in good condition well into June.

Feed Program

Over 5,200 labels of animal feed, pet food and medicated feed ingredients were reviewed and registered during the year. A total of 252 samples of feed and pet food products being offered for sale in Massachusetts were taken and tested for protein, fat and fiber at the Spectrum Analytic, Inc. Laboratory.

Fertilizer Program

A total of 1,917 labels of fertilizer products were reviewed and registered for the year. A total of 385 samples of fertilizer products being offered for sale in Massachusetts were taken and tested at the Spectrum Analytic, Inc. Laboratory for Nitrogen, Phosphate and Potash. Assessment penalties in shortage of guarantee (s) levels were levied, with fines collected and turned back to the farmers or submitted to the state treasury. Tonnage taxes were assessed and collected on a semi-annual basis.

Lime Program

A total of 62 limestone labels were reviewed and registered during the year. Samples of lime products were taken and tested at the Spectrum Analytic, Inc. laboratory for conformance.

Seed Program

Bureau inspectors did not sample any turf seed, crop seed, vegetable seed, lawn mixtures, flower seeds, shrub seeds, tree seeds, etc., for truth in labeling due to budget cuts. However, the inspectors did enforce the Massachusetts Seed Law and issued a Stop Sale Order on any seed that did not comply with the Massachusetts Seed Law.

Branding Law

Inspections were made at retail stores, wholesale markets and roadside stands to enforce the branding laws on apples and potatoes. Misbranded products were relabeled or removed from sale by issuing a Stop Sale Order. Stop Sale Orders were issued on 29 lots of apples covering 143 bags of apples and 37 lots of potatoes covering 473 bags of potatoes. The "Native Law" was also enforced by the inspectors when necessary.

Storage Laws

Records are kept on cold storage and controlled-atmosphere (CA) apple rooms to assure compliance with storage laws, thereby allowing Massachusetts apples to be shipped into distant markets year round. Over 25 fruit growers in Massachusetts now have over 75 CA rooms that are inspected three times during the storage season. Two new controlled atmosphere storages were built during the last two years.

Maple Syrup

During FY '96 the Bureau of Farm Products and Plant Industries sampled 50 maple syrup products from Massachusetts producers for testing of lead content in cooperation with the Department of Public Health's Division of Food & Drug. Nine of the 50 samples taken were re-sampled again for lead content. We received full cooperation from the Massachusetts Maple Syrup Producers Association. Most of the maple syrup producers in Massachusetts are under way in replacing and/or up-grading their operations. This effort has proven to be very effective in reducing the level of lead in syrup. We expect the sampling and testing program to continue in the spring of 1997 to insure that all producers meet the recommended guidelines to limit the level of lead in maple syrup.

Nursery Inspection

Our 1995 inspection season, for FY '96, began on June 1, 1995. Changes were made for annual inspections to cover more extensive inspections throughout the Commonwealth, with fewer inspectors.

The annual inspection of nurseries was completed in the first week of September 1995. Four inspectors were hired for this inspection season. The summer inspection group this year consisted of older personnel rather than the usual recruits from the local colleges. Applicants all had courses in entomology, plant pathology, and horticulture,

and/or related subjects. The Bureau of Farm Products and Plant Industries' nursery licenses expire on June 30 of each year. New nurseries are inspected subsequent to July 1, as they become known.

While no unusual infestation of plant pests were found in the nurseries, the following insects and diseases were detected during the summer inspection period: Aphids, Spider Mites, Japanese Beetle, White Pine Weevil, Spruce Gall, Black Vine Weevil, Pine Tip Borer, Gypsy Moth, Leaf Gall, Leaf spot, and Leaf Miner. Dogwood Anthracnose was prevalent on *Cornus florida* (native dogwood) but was not detected on *Cornus kousa* (Korean dogwood), a more resistant variety. Due to the extreme drought, most nurseries were found to have extreme heat stress along with some winter injury due to the lack of snow fall in the 1994-1995 winter. It should be noted that due to organic, IPM and chemical pest controls, pest problems in the nurseries are being kept to a minimum.

Regulations

The Bureau is in the process of re-writing the regulations. Dave Sheldon, Al Carl and Phyllis Michalewich have spoken with legal counsel and have made recommendations for changes, additions and deletions in the regulations. Hopefully these will be in place during FY '97.

Survey and Trapping

Surveys were conducted for the presence of Gypsy Moth, Hemlock Woolly Adelgid and *Lilioceris lili*. Gypsy Moth was found to be light to none in the nurseries and their perimeters. *Lilioceris lili* was found only in private growers' gardens. Hemlock Woolly Adelgid is continuing to spread in the Commonwealth, however it has not yet been detected in any of our state nurseries. The summer nursery inspection crew was utilized to scout for these insects as well as Dogwood Anthracnose.

Survey work was conducted throughout the Commonwealth for the presence of the Pine Shoot Beetle on Scotch and Austrian Pine Christmas Trees. These inspections are made based on the fact that many cut Christmas trees do come into this state from known infested states such as Michigan, Ohio, Pennsylvania and New York. Sampling was carried out across the state. There were no finds of *Tomicus* Beetle in Massachusetts.

The Department's two certification programs for Cape American Beachgrass and Virus free Strawberry plants were also continued this year. There were no unusual finds during these inspections.

Collaboration with USDA - APHIS

Pest detection, Black Stem Rust, Postentry quarantine, insect, plant pathogen, soil and snail importations, into this state are cooperative activities with USDA, APHIS, PPQ. Eight nursery sites were approved this year to grow plants from foreign countries under USDA-APHIS- PPQ Postentry quarantine NO. 37.

Diagnostic Lab - UMASS

Bob Childs at the UMASS Diagnostic Lab stated that the lab received 300 cultural specimens, 1500 phone calls regarding insect, disease, and pesticide related problems. Drought calls and concerns were most common. He remarked that drought and heat stress usually takes three years to take its toll and that the calls this year were from the drought related summer from 2 years ago and is expecting the calls to increase for the next 2 years as well.

Apiary Inspection

During May of 1995, five seasonal apiary inspectors were hired to survey Franklin, Bristol, Hampshire, Hampden, Worcester, Essex, Middlesex, and Norfolk counties for american foul brood, **Bacillus larvae**, and varroa mites, **Varroa jacobsoni**. The inspection program was in full swing by the first week of June. These individuals were hired because of their ability to communicate with beekeepers and for their substantial apicultural expertise. Qualified apiary inspectors were unavailable for Berkshire, Plymouth, Nantucket, Barnstable, Suffolk and Dukes counties. We have found it more efficient and expedient to re-assign existing personnel to counties lacking inspectors for trouble-shooting, apiary management and disease queries, rather than to hire unqualified inspectors who may stimulate the ire and resentment of the beekeeping community.

The objective of maintaining relatively disease free colonies can be achieved without the acrimony experienced during past inspection seasons, simply by attempting to educate beekeepers. In order to be successful, beekeepers have to be knowledgeable of what they are doing; apiary inspectors euphemistically can be referred to as the first line of the extension service. Most beekeepers felt better about doing the right thing concerning a diseased hive situation on their own initiative, as opposed to receiving a lecture from a perceived intruder. FY '96 apiary inspection season was education focused, rather than enforcement of procedure oriented.

Brood disease and varroa mite data are included in this report for fiscal year 1996.

American foul brood was detected in 2.4 % of colonies inspected; varroa mite populations were detectable in 99.74 % of the colonies surveyed.

Winter honey bee colony mortality averaged 60 %, with many beekeepers experiencing 80 % to 100 % colony loss in colonies where treatment to control varroa mites had not been applied early enough. These late treatments occurred in late September or early October instead of late July to early August. In some cases, no treatment at all occurred. Stressful winter conditions from mid-November to late March, doubtless contributed to these mortality figures. Most beekeepers that sustained high winter mortality, made partial replacement with package bees purchased from southern beekeepers.

Fact sheets describing honey bee tracheal mite, varroa mite, and american foul brood, and their controls, have been distributed to beekeepers upon request and during annual inspections. Basic beginners fact sheets and periodical reprints are supplied to beekeepers , as well. American foul brood, honey bee tracheal mites, and varroa mites are here to stay; beekeepers' ability to live with these maladies, with assistance from a sensitive inspection program, will eventually re-establish an equilibrium in Massachusetts beekeeping. Apiculture at present requires application of basic husbandry.

Apiary inspection can be self-sustaining and pay for itself by alerting beekeepers to early life stages of potentially infectious brood diseases and excessive parasitic mite populations; all can be controlled if diagnosed early enough in the field. Beekeepers generally have been receptive to apiary inspectors, when they realize that the inspector is motivated to provide education and assistance, and has their interests at heart, rather than regulation.

Highly informed beekeepers have evolved over the past ten years. Those who are still keeping honey bees are knowledgeable enough to maintain a fairly static indigenous hive population.

The annual enhancement value of honey bee assisted pollination of cranberries, apples, highbush blueberries, strawberries, brambles, and cucurbits is at least 100 million dollars in Massachusetts. This figure does not represent the value of the crops produced, but rather the value in additional production added to a particular crop by honey bee pollination. Considering that the annual honey crop averages about 250,000 pounds in Massachusetts, with an estimated value of \$350,000.00, honey bee-assisted pollination contributes 285 times honey production to this state's agricultural economy.

Conclusion

The Bureau of Farm Products and Plant Industries through strict adherence to laws, regulations, grades, label reviews and other essential data, has done much to up-grade the quality and condition of farm products, apiaries, nursery stock and greenhouse plants being offered for sale in Massachusetts. These programs reflect the general crop conditions and market situations of the farm products, nursery stock and greenhouse plants. The uniform laws and grades allow these products to move in interstate and export commerce. Working with other states, the USDA, the Food and Drug Administration and other various regulated industries, the Bureau of Farm Products and Plant Industries and the Department of Food and Agriculture have helped foster the marketing of high-quality farm products, nursery stock and greenhouse plants.

A sincere thanks is extended to all of the staff members in the Bureau for their great work ethics and extra efforts throughout the year. In addition, the Bureau is very appreciative of the support of all the other staff members of the Department of Food and Agriculture that work closely with us throughout the year.

FEED, FERTILIZER and LIME REGISTRATION PRODUCTS FOR CALENDER YEAR

	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>
Feed/a	3,497	3,756	4,271	4,549	4,799	5,219
Fertilizer/b	1,242	1,507	1,645	1,769	1,720	1,917
Fertilizer/c	23	30	26	26	22	29
Lime/d	47	48	50	65	60	62

/a Feed Brands

/b Specialty Fertilizer Brands

/c Commercial Fertilizer Licenses

/d Lime Brands

FEED, FERTILIZER and LIME RECEIPTS FOR CALENDER YEAR

	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>
Feed/a	\$174,825.00	\$87,800.00	\$213,550.00	\$227,450.00	\$239,950.00	\$260,950.00
Fertilizer/b	62,100.00	75,350.00	82,250.00	88,450.00	86,000.00	95,950.00
Fertilizer/c	2,875.00	3,750.00	3,250.00	3,250.00	2,750.00	3,628.00
Lime/d	2,350.00	2,400.00	2,500.00	3,250.00	3,000.00	3,100.00
Tonnage/e	10,685.30	13,905.39	14,002.14	13,528.68	14,858.94	18,114.84
Penalties/f	-----	18,987.79	12,270.14	7,506.56	11,182.45	8,372.39

/a Feed Brands

/b Specialty Fertilizer Brands

/c Commercial Fertilizer Plants

/d Lime Brands

/e Fertilizer Tonnage Fees

/f Fertilizer Penalties

FRUIT and VEGETABLE INSPECTION RECEIPTS FOR CALENDER YEAR

	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>
Apples	\$ 9,592.00	\$10,919.14	\$7,795.78	\$5,745.64	\$9,098.31	\$11,000.56
P.V.G.A.	-----	200.00	515.00	890.00	825.00	410.00
C.G.A.	-----	-----	-----	570.00	460.00	635.00
Cranberries	280.00	560.00	280.00	-----	-----	-----
Total	\$9,872.00	\$11,679.14	\$8,590.78	\$7,205.64	\$10,383.31	\$12,045.56

P.V.G.A. (Pioneer Valley Growers Association)

C.G.A. (Coastal Growers Association)

APPLES EXPORTED

YEAR	CARTONS	VALUE
1986	113,896	\$1,366,752
1987	91,375	\$1,096,500
1988	126,593	\$1,519,116
1989	236,559	\$2,838,708
1990	226,354	\$2,716,248
1991	127,693	\$1,532,316
1992	145,402	\$1,744,824
1993	102,847	\$1,234,164
1994	72,545	\$870,540
1995	122,967	\$1,708,00
1996	149,759	\$2,246,385

NURSERY AND AGENT LICENSES

	INSPECTIONS	ISSUED	RECEIPTS
Nurseries	593	224	\$ 5,930.00
Greenhouses	91	36	\$ 1,080.00
Agent's	583	897	\$ 26,910.00
Houseplant	10	10	\$ 100.00
State Phytosanitary	246	246	
Tree/Shrub Seeds	195	195	
Federal Phytosanitary	48	48	
Ribes Control	0	2	
Total fees received			\$34,020.00

ACREAGE

COUNTIES	*	1-5	6-25	26-100	+100	GREEN- HOUSES	AGENTS
BARNSTABLE	5	10	2	0	0	0	73
BERKSHIRE	0	7	0	0	0	1	28
BRISTOL	11	12	5	2	0	2	87
DUKES	5	0	0	0	0	0	86
ESSEX	7	0	4	2	4	2	87
FRANKLIN	2	5	1	1	0	2	44
HAMPDEN	3	5	5	1	0	1	87
HAMPSHIRE	5	0	4	1	0	4	28
MIDDLESEX	15	11	0	2	1	0	178
NANTUCKET	0	0	0	0	0	0	5
NORFOLK	5	11	2	1	0	3	124
PLYMOUTH	8	7	2	2	2	0	86
SUFFOLK	0	0	4	0	0	0	44
WORCESTER	12	10	5	0	1	3	87
TOTALS	83	88	37	12	4	36	897

MASSACHUSETTS DEPARTMENT OF FOOD AND AGRICULTURE
APIARY INSPECTION
ANNUAL STATISTICAL REPORT
SEASON - 1996

County	# Colony Examined	# Colony owned	# Colony A.F.B.	# Colony E.F.B.	# Colony Varroa	Varroa Mite Detected	Bee Keepers
Dukes	0	119	0	0	0	(1992)	36
Barnstable	0	800M 170R	0	0	0	(1988)	125
Berkshire	5	256	0	0	0	(1994)	95
Bristol	299	3300M 605R	0	0	299	16	125
Essex	212	1100	0	0	212	3	240
Franklin	173	280	2	0	173	3	98
Hampden	189	206	0	0	189	3	98
Hampshire	203	213	2	0	203	2	93
Middlesex	595	500M 817R	56	0	595	82	295
Norfolk	168	227	0	0	168	0	120
Plymouth	220	15000M 1016R	0	0	220	0	149
Worcester	768	1288	8	0	768	740	429
Nantucket	0	95	0	0	0	(1991)	13
Total	2832	19600M 6273R	81	0	2832	844	1831

Colonies surveyed showing detectable populations of varroa mites:

A.F.B 2.86 % E.F.B 0.00% Varroa Mite - 29.8%

M - migratory colonies from Florida, Louisiana, etc.

R - resident colonies kept in Massachusetts all year round

A.F.B - American foul brood

E.F.B - European foul brood

3

Pesticide Bureau

Introduction

As has been the case in all previous years, the Pesticide Bureau has continued a tradition of running a very strong, yet reasonable regulatory program. Details are covered in the text of this report.

A large part of our success as regulators has been in making both education and collaboration strong components of all our regulatory programs. More and more however, we find ourselves in situations where education and collaboration are the primary, if not sole means of achieving a given goal. While we will continue to use regulation where appropriate, we expect to be using education and collaboration more and more as "stand alone" risk management tools. A good example of this can be seen in our Integrated Pest Management (IPM) Program. We believe that encouraging sound pest control can go a long way in reducing pesticide risks. However, we have neither the authority, nor the funding to regulate and enforce IPM. In FY '96, many of our non-regulatory efforts were focused in IPM.

Personnel

Name	Position
Brad Mitchell	Bureau Chief
Lillian Rivera	Product Registration Specialist
Suzie Reed	Product Registration Assistant
Lee Corte-Real	Environmental Chemist

Mark Buffone	Entomologist/Certification and Education Coordinator
Sandra Payne	Certification and Licensing Assistant
Iliana Rivas	IPM Program Coordinator/GIS Analyst
John Kenney	Chief Inspector - Pesticide Inspections
Andrea Szylvian	Supervisory Inspector
Dennis Guastalli	Rights of Way Program Coordinator
Paul Rico	Supervisory Inspector
Mike McLean	Senior Inspector
Steve Kenyon	Toxicologist
Karen Dixon	Senior Inspector

New Personnel

The Bureau hired an additional inspector during 1996. Mike McLean joined us and will be covering Worcester County and surrounding areas. Mr. McClean has a solid background in environmental monitoring and as an Emergency Medical Technician. He is working on his Bachelors Degree in Environmental Science.

Steven Kenyon was hired to fill the role of Toxicologist at the Bureau. He is a graduate of UMASS Amherst. His previous experience is with the UMASS Pesticide Analytical Laboratory, and as a safety officer with a large Massachusetts food distribution company.

New Pesticide Bureau Publications

Urban Pest Control - The IPM Way An Introduction: Q & A A basic informational brochure introducing the reader to general principals and concepts of Integrated Pest Management in urban settings.

Urban Pest Control - The IPM Way An Informational Brochure A detailed brochure on Integrated Pest Management in urban settings. The document describes the concepts, principles, practices and benefits of an IPM approach. A description of specific IPM practices and an IPM "Quick Quiz" serve to familiarize the reader with IPM beyond the introductory level.

Integrated Pest Management Kit For Building Managers A manual for building managers which introduces them to the concept of IPM in buildings. Specific sections deal with contract specifications for food services, pest control and waste disposal. The kit contains several removable fact sheets for building employees, contractors and occupants which detail their roles in IPM.

Changes in Regulations

Sign Posting

When the federal Worker Protection Standard (WPS) came into effect, growers became subject to an additional sign posting requirement. Three agricultural sign posting regulations were already in place: a federal Chemigation, state Restricted Use, and state Aerial posting requirements. All four requirements entailed different signs, re-entry intervals, and times when the signs had to be posted and removed. The Bureau soon realized (and was frequently told by growers) that the myriad of sign-posting requirements was confusing and overly burdensome.

In response, the Bureau proposed revisions to the state Restricted Use and state aerial sign posting requirements. The Board passed the proposed changes. The changes entailed:

Replacing existing state signs with the federal WPS sign.

Where it would not interfere with the original intention of the state sign posting requirements, state requirements were "synchronized" with the federal WPS requirements. The timing of when signs had to be posted and removed in relation to the application, were made as uniform as possible.

It is important to note that state sign posting requirements still exist for Aerial and Restricted Use products. The changes to the regulations resulted in little if any loss of protection to the public or the environment. However, by making the regulations easier to understand and follow, it is expected that compliance will increase. This in turn, should lead to an overall increase in protection of public health and the environment.

Restricted Use Sign Posting

As part of the same package, the Restricted Use sign posting requirements were also revised for reasons separate from the additional burden of WPS. Prior to the change, Restricted Use posting requirements pertained to *all* Restricted Use products. Many products covered by these posting requirements were restricted for risks other than direct contact of people in treated area. For instance, some are restricted due to hazards to birds or other wildlife. In such instances, sign posting served little if any

purpose.

To address this problem, the Bureau proposed to limit state Restricted Use sign posting requirements to only those state and federal Restricted Use products which bear the signal word "DANGER" on the label. The Board approved the proposal. The net result is that Restricted Use posting is now only required for those products which pose an imminent hazard to persons in the treated area.

Mosquito Larvacides and Prenotification Requirements

Several years ago, the coastal mosquito control projects pointed out that the aerial prenotification requirements in some cases interfered with effective control of larval mosquitoes. The problem was that in some cases, it would take several days before the projects could satisfy prenotification requirements and be allowed to make applications. During this time, larvae would hatch, and the need to apply larvacides would be moot.

The projects made the point that in these cases, Prenotification was actually counter to the public's best interest. Once hatched, mosquitoes would need to be controlled with adulticides. Compared to the larvacides in use, adulticides pose greater risk to man and the environment than larvacides. Adulticides are also used in populated areas, while larvacides are used in relatively unpopulated areas.

The Bureau, seeing the logic in this argument, proposed revisions to the aerial prenotification requirements for the use of mosquito larvacides. These revisions shortened the period of time before an application in which the Bureau and Boards of Health needed to be notified of applications. The revisions also required mosquito control projects to post a notice in newspapers by March 1 before applications, rather than the previously required 72 hours. The Board approved the proposed changes. The result is that projects are now able to conduct more effective larvaciding and reduce the need to use adulticides.

Enforcement

Activities of Enforcement in the administering of the Pesticide License Examinations, and the Right of Way program are covered in a separate section. Data is compiled using the 96 federal fiscal year, ending on September 30, 1996, regarding activity begun and/or completed during that fiscal year.

A Senior Inspector from the Enforcement staff attended a training session at the University of California, in Davis for Pesticide Compliance Management I. Another Senior Inspector attended a training session on Pesticide Product Labeling in Augusta, Georgia. The Chief Inspector attended Pesticide Compliance Management II at the University of California in Davis.

During FY '96, 25 inspections for Worker Protection Standard (WPS) were conducted:

Greenhouse:	8
General Agriculture:	7
Nursery:	6
Orchard:	4

During FY '96 one complaint regarding alleged WPS violations was investigated, resulting in a Letter of Warning. During routine inspections violations were determined at four other establishments resulting in one Letter of Warning issued in FY '96. Further action is pending during FY 97 in three other cases.

Enforcement staff conducted / participated in two WPS training sessions in FY '96 with Co-operative Extension. A suggested form for record keeping for agricultural users was developed which incorporates all the information required by; Massachusetts record keeping regulations, USDA and WPS provisions.

As in past years, Enforcement continues to give lectures to the pesticide using community regarding laws and regulations. These lectures have been sponsored by Co-operative Extension, various industry associations and companies.

All Inspectors attended the annual training week conducted for all New England pesticide program Inspectors, sponsored by EPA Region I.

In addition to the many phone calls received about pesticide questions, Enforcement responded to 58 calls regarding enforcement related concerns. These 58 calls did not require complete investigations by Enforcement staff, but rather a lower level of enforcement activity.

The Enforcement section continues to conduct routine inspections of pesticide user establishments, producer establishments and investigate complaints. Inspections have been conducted as follows:

Agricultural Follow up	16
Agricultural Use Observations	5
Non Agricultural Follow up	47
Non Agricultural Use Observations	16
Certified Applicator Records	49
Marketplace Inspections	72
Producing Establishment Inspections	16
Restricted Use Pesticide Dealer Inspections	19
Total:	240
Samples taken to the Massachusetts Pesticide Analysis Laboratory (MPAL)	117
Documentary Samples	55
Notice Of Aerial Applications Of Pesticides	10
Permits For Aerial Application Of Pesticides	5

Enforcement Actions

The Department has instituted an enforcement action through the Attorney General's Office regarding a Right Of Way violation, use of a Massachusetts unregistered pesticide and record keeping violations against two companies, one in Massachusetts and one in Pennsylvania.

Enforcement Actions

Warnings	57
Administrative Orders	18

Issues addressed in Administrative Orders

Operate in careful manner	4
Unlicensed use	2
Use inconsistent w/label,	8
Use of unregistered pesticide	6
Dispose of unregistered pesticide	6
Unreasonable adverse effect	2
Damaged labels	1
Broken / damaged containers	1

Note that some orders address only one issue while some others address more than one.

All tables and graphs in the Enforcement section use various codes. These codes are described below to assist in the interpretation of the data presented.

Enforcement Codes for Tables 1 & 2 and Graphs 1,2,3, & 4

<u>Graph Codes</u>	<u>Description</u>
AG	Agriculture - general
AGU	Agricultural Use
AGF	Agricultural Follow Up
CAR	Certified Applicator Record
CRB	Cranberry
CUS	Custom Agriculture
DAI	Dairy
DIS	Distributor
EUP	Experimental Use
EXP	Export
FOR	Forestry
GOL	Golf Club
GPC	General Pest Control
GRH	Green House
HO	Home Owner
LL	Landlord
LSC	Landscape
LC	Lawn Care
MAI	Maintenance
MKT	Marketplace
MOS	Mosquito
MPT	Import
MSC	Miscellaneous
NAF	No Agricultural Follow Up
NAU	Non Agricultural Use
NUR	Nursery
ORC	Orchard
PEI	Producing Establishment
PH	Public Health
PRDI	Producer/Distributor
REM	Real Estate Management
ROW	Rights of Way
RUP	Restricted Use Pesticide Dealer
STO	Shade Tree & Ornamental
TER	Termite
VER	Vertebrate

COOPERATIVE AGREEMENT QUARTERLY REPORT

QUARTER: 0

FEDERAL FISCAL YEAR: 96

	AGU	AGF	NAU	NAF	EUU	PEI	MKT	MPT	EXP	CAR	EUU	TOTALS
TOTAL INSPECTIONS	5	16	16	47	0	16	73	0	0	49	19	241
Federal Facilities	0	0	0	0	0	0	0	0	0	0	0	0
HOW MANY ADDRESSED THE FOLLOWING:												
a): Worker Protect.	1	4	0	1	0	0	1	0	0	18	0	25
b): Ground Water	0	0	0	0	0	0	0	0	0	0	0	0
c): Endangered Spec.	0	0	0	0	0	0	0	0	0	0	0	0
d): Cancel/Suspended	0	0	0	0	0	0	0	0	0	0	0	0
SAMPLES COLLECTED												
Physical Samples	9	31	14	23	0	40	0	0	0	0	0	117
Documentary Samples	2	2	1	0	0	0	50	0	0	0	0	55

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DATE PRINTED:
02-Mar-97

COOPERATIVE AGREEMENT QUARTERLY REPORT

QUARTER: 0

FEDERAL FISCAL YEAR: 96

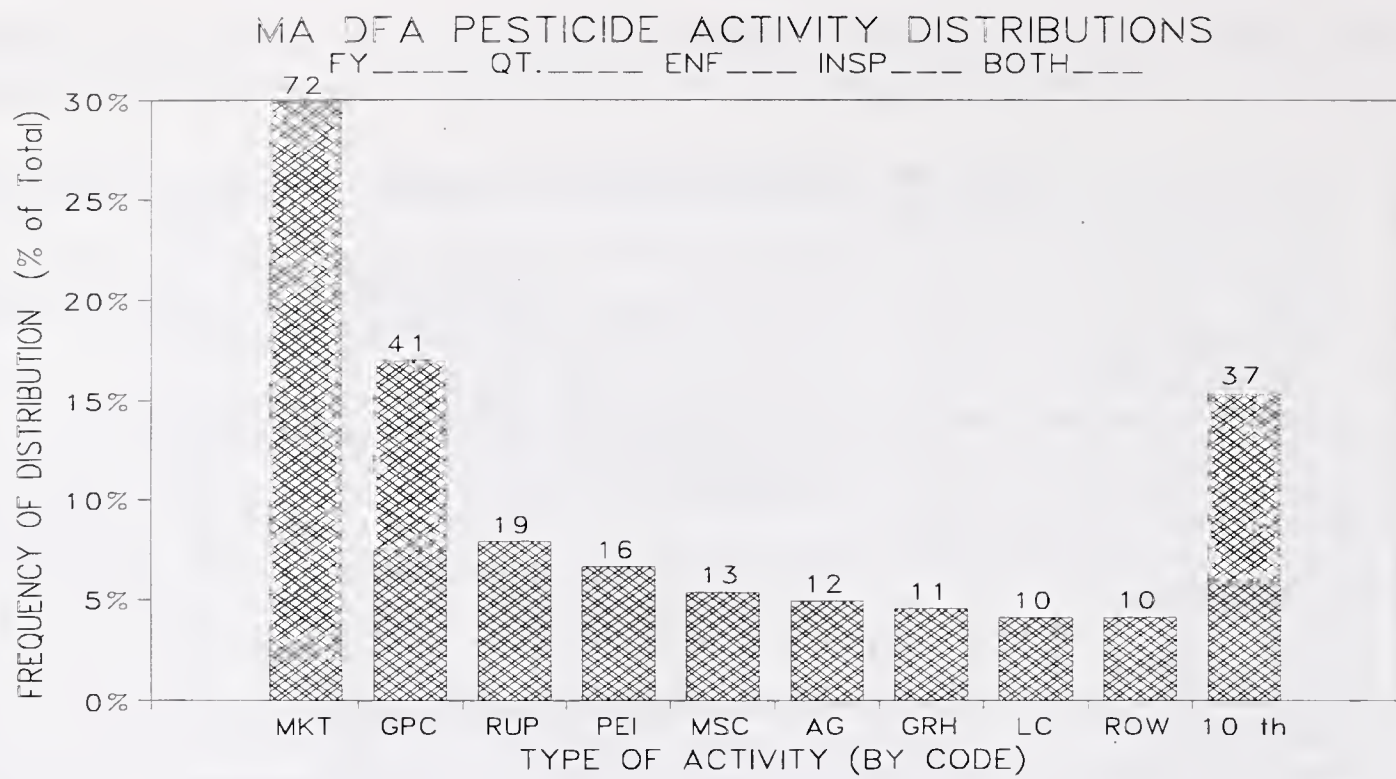
	AGU	AGF	NAU	NAF	EUU	PEI	MKT	MPT	EXP	CAR	EUU	TOTALS
CIVIL COMP. ISSUED	0	0	0	0	0	0	0	0	0	0	0	0
CRIM. ACTS REFERRED	0	0	0	0	0	0	0	0	0	0	0	0
ADMIN HEARINGS	0	0	0	0	0	0	0	0	0	0	0	0
LIC/CERT SUSPENSION	0	0	0	0	0	0	0	0	0	0	0	0
LIC/CERT REVOKATION	0	0	0	0	0	0	0	0	0	0	0	0
LIC/CERT MODIFY	0	0	0	0	0	0	0	0	0	0	0	0
NUMBER OF WARNINGS	0	3	0	25	0	0	7	0	0	19	3	57
SSUBS'S/EMBARGOS	0	0	0	0	0	0	0	0	0	0	0	0
CASES FORWARDED EPA	0	0	0	0	0	0	0	0	0	0	0	0
OTHER INF. ACTION	0	4	0	13	0	0	1	0	0	0	0	18
CASES ASSESSED FINE	0	0	0	0	0	0	0	0	0	0	0	0

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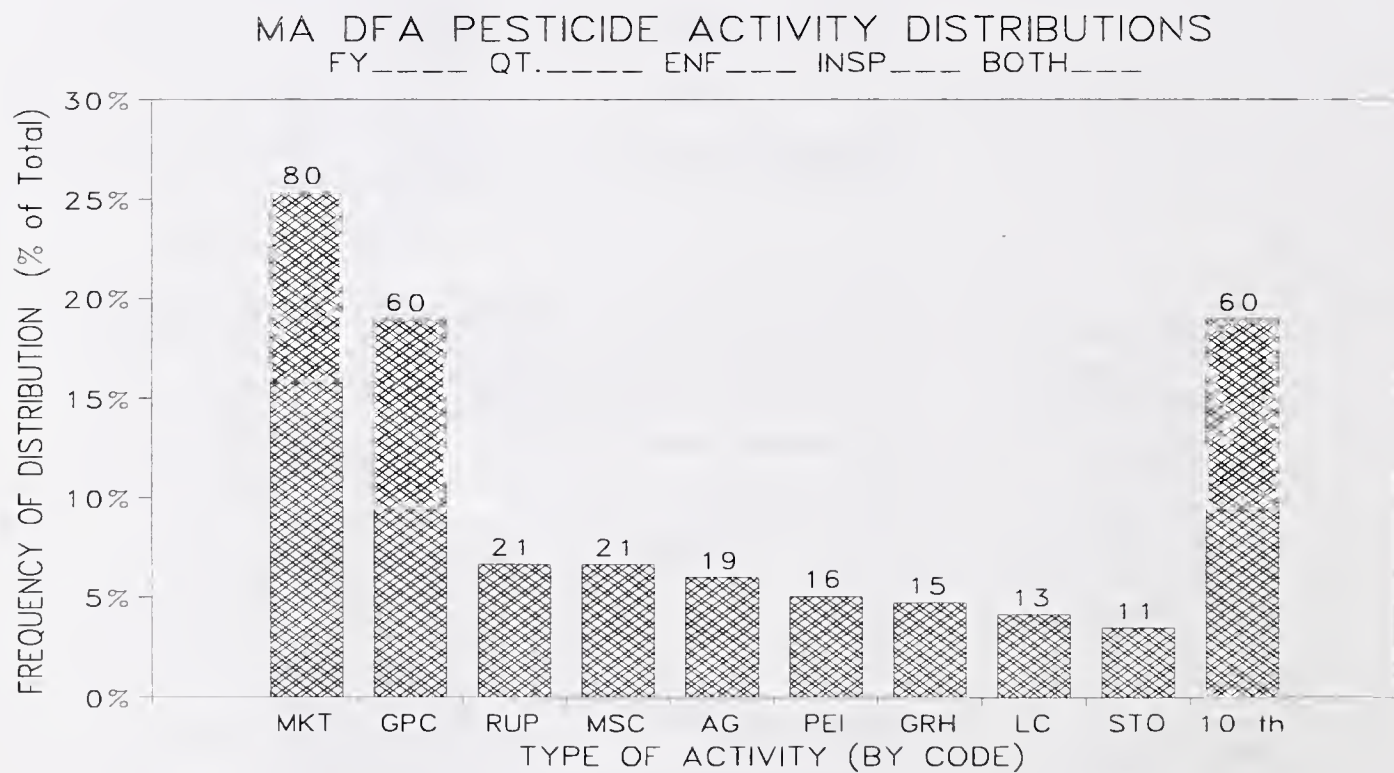
FY '96 Inspections

Graph 1



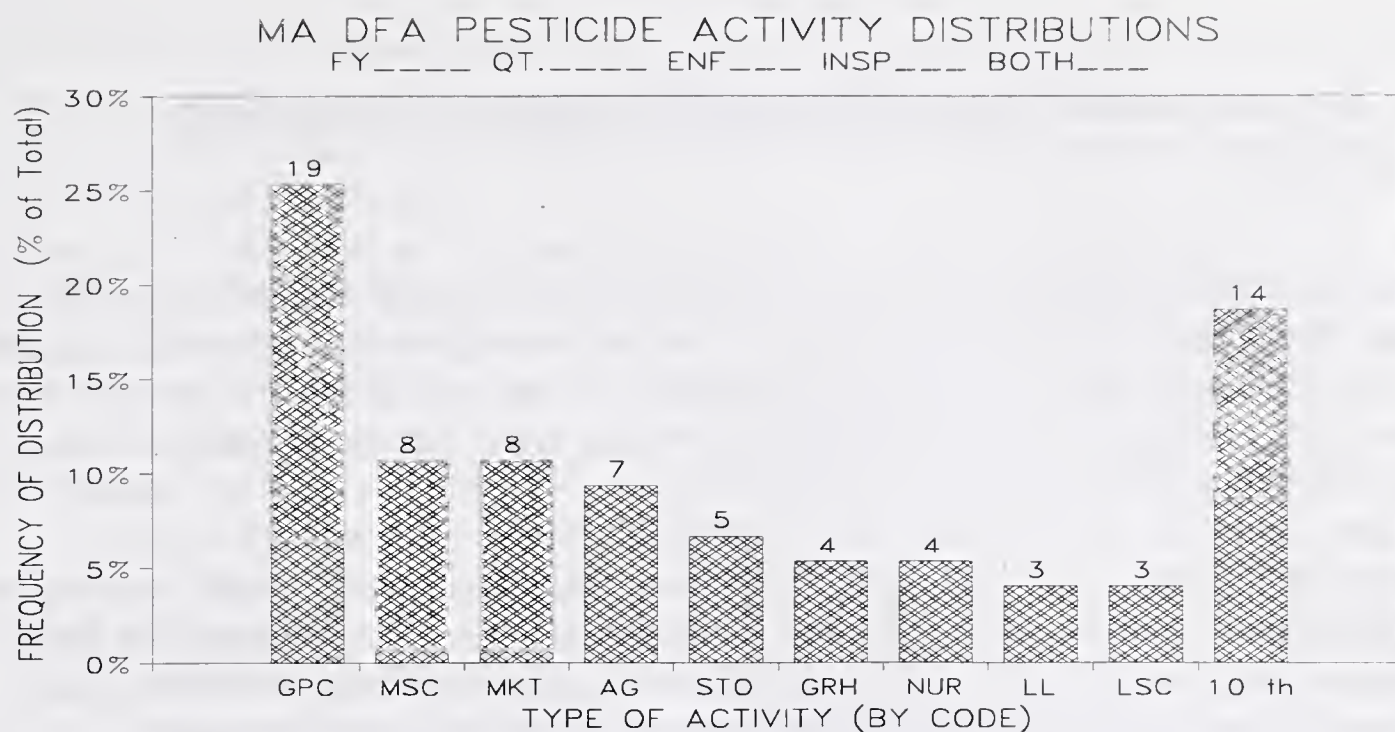
FY '96 Inspections Combined with Enforcement Actions

Graph 2



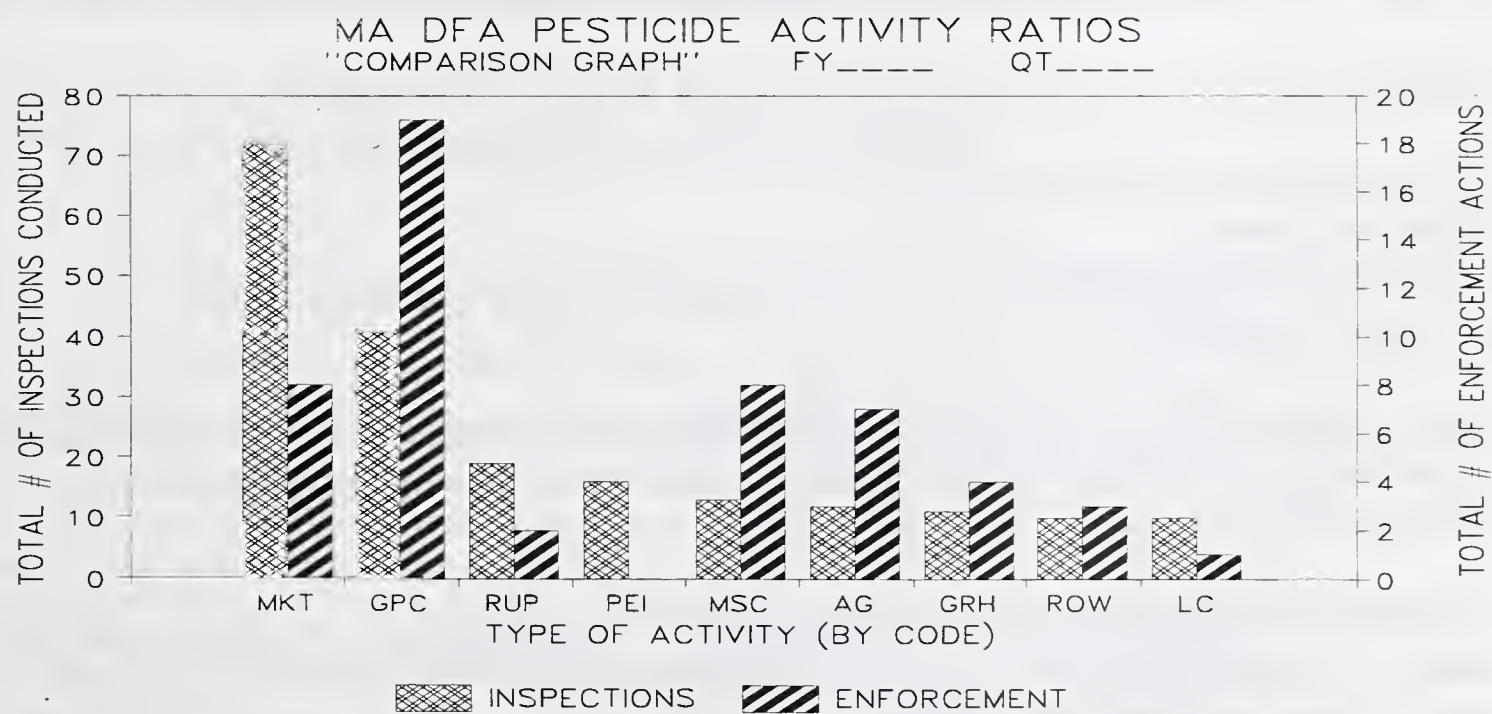
FY '96 Enforcement Actions

Graph 3



FY '96 Inspections vs. Enforcement Actions

Graph 4



Pesticide Applicator Certification and Training Program

The Massachusetts Department of Food and Agriculture is the state lead agency for pesticide regulation in the Commonwealth. The Pesticide Bureau's licensure program assumes a critical position in the Department carrying out both state and federal mandates pertaining to pesticide applicator licensure in the Commonwealth. These mandates titled the Massachusetts Pesticide Control Act (MPCA) and the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) set the standards for those individuals who want to use pesticides. Pesticides can effect human health, wildlife, and the environment. As a result, individuals using pesticides need to demonstrate their knowledge about the safe and proper use of these materials. The Certification and Licensing program fulfills the intent of these mandates by administering state examinations, issuing certifications and licenses, assuring continued competence, and approving and coordinating training. In the main, the overall program purpose is to protect the general public, the environment, and the person using pesticides.

Certification and License Types

There are four(4) types of pesticide certifications and licenses in Massachusetts.

These are:

1. Commercial Applicator License
2. Dealer License
3. Commercial Certification
4. Private Certification

These different types of certification and license documents permit individuals to legally use pesticides including, but not limited to, purchasing, selling, applying, mixing, loading, storing, disposing, and transporting.

Certified and licensed applicators have a special responsibility to handle all pesticides safely. As a result, these individuals must demonstrate their competency through passing state pesticide examinations.

Certification and Licensing Examinations

Exam Frequency

During any fiscal year, a number of state examinations are offered to those seeking

pesticide licensure. There was no change in the number of state pesticide examinations offered during Fiscal Year 1996. Twenty-three (23) state examinations were offered to individuals seeking pesticide licensure during Fiscal Year 1996 which was what took place during Fiscal Year 1995. The exam frequency by calendar year comparing 1995 to 1996 was slightly different. There was a total of twenty-six (26) exams during calendar year 1995 compared to twenty-five (25) exams for calendar year 1996. This minor difference reflects the deletion of an examination site (in the City of Worcester) established as a result of needs expressed by a certain segment of the pest control operator industry. The Bureau did not find justification for this site for Fiscal Year 1996 since the Waltham exam site is the one most preferred and utilized by exam candidates.

As important as it is to offer an adequate number of opportunities to take the state pesticide examination, we schedule examinations so that they meet peak periods of applicator exam taking needs during the months of March, April, and May of each fiscal year. Finally, our exam schedule provides exam opportunities at least once a month.

The certification and licensing program works continually with individuals seeking pesticide licensure through the examination process. During Fiscal Year 1996 a total of one thousand six hundred and twenty (**1,620**) persons **registered** to take pesticide licensure exams. The **actual** number of individuals who were present to take the state pesticide examinations was one thousand four hundred and one (**1,401**) during Fiscal Year 1996. Each fiscal year we find that more individuals pay a fee and register for exams than actually show up to take the exams.

The number of people taking state exams **by license type** are shown for Fiscal Year 1996 and Fiscal Year 1995 for comparison purposes below:

Exam Statistics By Total Registered and License Type

EXAM TYPE	FY '96	FY '95
Commercial Certification Exam	161	181
Dealer License Exam	13	17
Commercial Applicator License Exam	1,133	1,163
Private Certification Exam	94	81
Total	1,401	1,442

It is interesting to note that the number of individuals taking exams decreased slightly for Fiscal Year 1996.

Certification and License Documents

The process to obtain a pesticide certification or license involves a registration and study experience.

Registration

During Fiscal Year 1996, we continued to mail out several thousand pesticide exam and license information bulletins to individuals and pest control companies. These fourteen (14) page bulletins provide interested individuals guidance on how to obtain a pesticide certification or license including such items as an exam application, exam schedule, study guide order form, applicator license training course information, resume form to verify experience, and other useful information. The program is far more efficient in its response to exam and license information requests by mailing the bulletin out the next day.

Study Experience

Those individuals seeking a pesticide certification or license need to learn and acquire knowledge concerning pesticide concepts, principles, practices, regulations, and terminology. The study experience is a self-directed learning experience. Individuals purchase required study materials from the University of Massachusetts. Individuals are required to study the following materials.

General Applicator Manual
General Applicator Manual Supplement
Massachusetts Pesticide law and regulations
Specific Certification Manual

The self-directed study experience provides a flexible format whereby the individual can learn and gain essential pesticide knowledge at their own pace. However, there is classroom training (voluntary) covering the General Applicator Manual and Supplement.

Number of Certification and License Documents Issued

CERTIFICATION/LICENSE TYPE ISSUED	FY '96	FY '95
Commercial Certification	2,494	2,650
Dealer License	143	142
Commercial Applicator License	2,382	2,152
Private Certification	1,588	1,621

Total	6,607	6,565
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NOTE: We still are observing an increase in the Commercial Applicator Licenses due to the new licensing standards that became effective January 1, 1994. (See standards below) The current numbers tell us that individuals are maintaining their pesticide credentials. In some years, we see decreases in the numbers of licenses issued due to factors such as individuals retiring, changing their profession, and moving to another state.

Renewal Applications

Once individuals demonstrate that they have acquired the necessary knowledge to handle pesticides in a safe manner, they are sent an application to obtain the pesticide license. Once an individual becomes licensed, the document must be renewed on an annual basis pursuant to state pesticide law and regulations. All certification and licenses with the exception of Dealer Licenses expire on December 31st of each year. The Dealer License expires on the last day of February of each year. As a result, individuals eligible to renew for the next year automatically receive a renewal application. These renewal applications are mailed out in October and each applicator must renew their certification and/or license by January 1st. Otherwise, they are required to retake and pass state examination(s) to be eligible for a certification or license during the new year.

Note: During Fiscal Year 1996, a successful effort was made to enforce the January 1st deadline. The majority of individuals eligible to renew their pesticide credential did so by January 1st. This effort insured that all eligible licensees had a new 1996 pesticide license in time for the new year. As a result, both the professional and the public benefit, knowing that they have a current and valid license as of January 1st or shortly thereafter.

Total Renewal Applications Mailed

	<u>FY '96</u>	<u>FY '95</u>
Total Renewal Applications Mailed	6,531	6,053
Total Returned and Approved	5,943	5,531
Percent Compliance (%)	91%	91%

A closer look at those individuals who renewed for FY '96 and FY '95 by certification and license type is shown below.

NUMBER OF PERSONS WHO RENEWED CERTIFICATION AND LICENSE

Credential Type	FY '96	FY '95
Commercial Certification	2,427	2,497
Dealer License	137	126
Commercial Applicator License	1,840	1,349
Private Certification	1,539	1,559
Total	5,943	5,531

Working Standards

Current certification and licensing standards that became effective during Fiscal Year 1994 (January 1, 1994), continues to be working well during Fiscal Year 1996.

Age Requirement

An individual must be at least **18 years old** to take the commercial certification exam.

Experience Requirement

Before an individual can take **commercial certification pesticide exams**, the individuals must verify they have appropriate experience and/or education. In effect, those individuals who have held a commercial applicator license for two years qualify to take the commercial certification examination. The intent of this change is to insure that individuals have specialized knowledge and skills before handling pesticides classified as restricted use.

Uniform Closed Book Examinations

All examinations are closed book exercises. This provides for an increased incentive to prepare thoroughly and prudently for state pesticide examinations.

Re-taking State Examinations

If an individual fails an exam twice, the individual must wait three (3) months before re-taking it. If an individual fails an exam three (3) times, the individual must wait one (1) year before re-taking it.

For Fiscal Year 1996, sixty-one (61) individuals failed state pesticide examinations twice while only twenty (20) failed exams three (3) times.

Who Needs A License

The Massachusetts Pesticide Control Act requires all persons who apply pesticides in public and private places used for human occupation and habitation with the exception of residential properties with three or less dwelling units, to be in possession of a valid license or certification issued by the Department of Food and Agriculture. The law also includes individuals who use pesticides "as part of their duties" in and around apartment buildings, condominiums, schools and other similar facilities to obtain a pesticide license such as custodians, landlords, and grounds and maintenance personnel.

Continuing Education

Every three (3) years, license holders must attend retraining/continuing education programs and obtain contact hours to maintain and enhance their pesticide applicator knowledge.

US EPA Worker Protection Standard (WPS)

Amendments to the Federal WPS

The Environmental Protection Agency (EPA) issued two final amendments to the Worker Protection Standard (WPS) for agricultural pesticides. The amendments are intended to make the standard more practical and flexible for states as well as farmers to implement while maintaining safeguards for agricultural workers. In addition, these changes are expected to encourage the use of lower toxicity pesticides, allow the use of languages other than Spanish when appropriate, and facilitate posting of pesticide-treated areas in nurseries and greenhouses.

Worker Protection Standard Amendments

Decontamination

In June 1996, EPA amended the WPS to reduce the number of days decontamination supplies (soap, water, paper towels) are required to be available to workers after application of pesticides which are low risk and have Restricted Entry intervals (REIs) of four hours or less. This decision is based on the EPA's response to a petition from a coalition of agricultural organizations as well as comments from growers, farm worker groups, state agencies, and private citizens.

Summary of Amendments

- Decontamination supplies (soap, water, paper towels) must be available when a worker enters a treated area and will contact a treated surface.

- Decontamination supplies are required for seven days following the REI for low risk pesticides defined as pesticides with REIs of four hours or less.
- This reduced time period does not apply when two or more pesticides are mixed together, unless all of the pesticides in the mix have REIs of four hours or less.
- For pesticides that have longer REIs, the requirement remains the same, i.e., supplies must be maintained for thirty days.
- Because of the relatively low cost of supplying and maintaining decontamination supplies and the high potential risks which workers face from exposure to pesticides, EPA is not amending other aspects of the decontamination requirement.

Warning Signs

In June 1996, the EPA amended the WPS to modify the warning sign size and language requirements to allow growers to substitute another language for the Spanish portion of the sign. In addition to allow the use of a smaller size sign in nurseries and greenhouses where use of the standard 14"x16" sign interfered with operations and the clear identification of a treated area.

Summary of Amendment

- Allows substitution of the language commonly spoken and read by workers for the Spanish portion of the warning sign. The sign must be in the format required by the WPS and be visible and legible. Use of the English/Spanish sign is always acceptable.
- Allows use of smaller signs provided minimum letter size and posting distances are observed. In nurseries and greenhouses, small signs may be used at any time. A small sign may be used on farms and forests if the treated area is too small to accommodate the standard sign. The posting and lettering requirements for the smaller signs will result in sign sizes of approximately 7 inches by 8 inches and 4 1/2 inches by 5 inches.

Pesticide Product Registration

The State Process

Any person who has obtained a product registration from the EPA, who wishes to sell the product in Massachusetts, must then apply for a registration with the Department of Food and Agriculture. The registrant or an agent acting on behalf of the registrant, is required to submit an "Application for New Pesticide Registration", a Material Safety Data Sheet (MSDS), a product label. A fee of \$100.00 dollars is also required for each

different EPA registration number.

New products are registered in general on a monthly basis. Every product label is thoroughly reviewed for compliance with state and federal laws and then brought to the Pesticide Board Subcommittee for consideration. A registration is valid from a period beginning with the initial date of approval by the Subcommittee and ending on the next June 30th. Each registration must be renewed annually no later than July 1, and the cost is \$100.00 per different EPA number. Currently there are 9,957 pesticide products registered in the state.

Special Local Needs (SLN) Registrations

When a particular agricultural problem exists that can only be mitigated through the use of a pesticide that is not federally registered for that specific purpose, that pesticide's use may be regulated by the state under section 24(c) of FIFRA. Currently, there are 13 active SLNs.

Massachusetts Active SLN Registrations

HACO (HOPKINS AG CHEMICAL CO.)
RAMIK BROWN
(DIPHACINONE) FOR USE IN ORCHARDS AGAINST RODENTS
EPA REG. NO. 876-184
MA SLN NO. 77-0001

RHONE POULENC
WEEDAR 64
(DIMETHYLAMINE-2,4-D) FOR USE ON CRANBERRIES AGAINST WEEDS
EPA REG. NO. 264-2
MA SLN NO. 79-0001

CIBA-GEIGY CORP.
DIAZINON 14G
(DIAZINON) FOR USE ON CRANBERRIES AGAINST CRANBERRY GIRDLER
LARVAE
EPA REG. NO. 100-469
MA SLN NO. 83-0005

RHONE POULENC
LARVIN BRAND 3.2 THIOCARB INSECTICIDE/OVICIDE
THIOCARB FOR USE ON SWEET CORN AGAINST ARMYWORMS, CORN
EARWORM AND EUROPEAN CORN BORER
EPA REG. NO. 264-379
MA SLN NO. 89-0001

ISK BIOTECH CORP.
BRAVO 720
(CHLOROTHALONIL) FOR USE ON CRANBERRIES AGAINST UPRIGHT AND
RUNNER DIEBACK
EPA REG. NO. 50534-188
MA SLN NO. 90-0001

COMPLIANCE SERVICES INTERNATIONAL
CARBAMATE WDG FOR USE ON CRANBERRIES AGAINST FAIRY RING DISEASE
EPA REG. NO. 45728-7
MA SLN NO. 93-0002

ABBOTT LABORATORIES
DIPEL ES BIOLOGICAL
INSECTICIDE EMULSIFIABLE SUSPENSION FOR USE ON CRANBERRIES
AGAINST GYPSY MOTH, CUTWORMS, CRANBERRY BLOSSOM WORM, FALSE
ARMY WORM AND SPANWORMS
EPA REG. NO. 275-65
MA SLN NO. 95-0001

PLATTE CHEMICAL CO.
CURBIT EC HERBICIDE
ETHALFLURALIN FOR WEED CONTROL IN PUMPKINS, SUMMER SQUASH AND
WINTER SQUASH
EPA REG. NO. 34704-610
MA SLN NO. 95-0002

CIBA-GEIGY CORP.
DUAL
METOLACHLOR FOR WEED CONTROL IN TRANSPLANTED CABBAGE AND
TRANSPLANTED BELL PEPPERS
EPA REG. NO. 100-673
MA SLN NO. 95-0003

CIBA-GEIGY CORP.
DUAL 8E
METOLACHLOR FOR WEED CONTROL IN TRANSPLANTED CABBAGE AND
TRANSPLANTED BELL PEPPERS
EPA REG. NO. 100-597
MA SLN NO. 95-0004

ISK BIOSCIENCES
BRAVO ULTREX
CHLOROTHALONIL TO CONTROL UPRIGHT AND RUNNER DIEBACK DISEASE ON
CRANBERRIES
EPA REG. NO. 50534-201

MA SLN NO. 96-0001

VALENT USA CORPORATION
ORTHENE 75 S SOLUBLE POWDER
ACEPHATE AT A REDUCED PHI TO CONTROL SECOND GENERATION
SPARGANTHIS FRUITWORM ON CRANBERRIES
EPA REG. NO. 59639-26
MA SLN NO. 96-0002

VALENT USA CORPORATION
ORTHENE 75 WSP
ACEPATE AT A REDUCED PHI TO CONTROL SECOND GENERATION
SPARGANTHIS FRUITWORM ON CRANBERRIES
EPA REG. NO. 59639-89
MA SLN NO. 96-0003

Experimental Use Permits (EUP)

State experimental use permits are required to control potential hazards of pesticide experimentation under out-of-door, greenhouse, and domestic animal trial conditions. To obtain such a permit, a state application must be filed with the Pesticide Board Subcommittee along with a product label, a copy of the EPA EUP and a fee of \$100.00 dollars. This year the Subcommittee granted the following EUP:

EARTHGROW COMPANY
1881 SELECT DISEASE SUPPRESSING PROFESSIONAL POTTING MIX,
REQUESTED FOR THE PURPOSE OF EVALUATING EFFICACY AGAINST
SOILBORNE PLANT PATHOGENS.
EPA EUP NO. 69006-EUPR
MA EUP NO. 97-0001

Pesticide Board Subcommittee Actions

State Individual Reviews

An individual review is a reevaluation of an existing registration i.e. change of use classification, suspension or other limitation. In addition, a review is warranted for every product containing a new active ingredient (a.i.) never before registered in the state. What follows is an outline of the new a.i. state individual reviews that were conducted by staff from the Department of Food and Agriculture and what action was taken by the Pesticide Board Subcommittee:

Registrant	Product Name/Active Ingredient	Use	Registration Status
Rohm and Haas Company	Indar 75 WSP EPA Reg. No. 707-239 a.i. fenbuconazole	Intended for use on a variety of stone fruit against a wide range of fungal diseases attacking the foliage, fruit and seed portions of many food crops.	Registered on July 19, 1995
Gowen Company	Savey 50-WSB Ovicide/Miticide EPA Reg. No. 10163-208 a.i. hexythiazox	Used as a miticide will kill larval stages of mites and renders eggs non-viable. Labelled for use only on Pears.	Registered on August 16, 1995
LiphaTech, Inc.	Generation Rodenticide Bait Packs, EPA Reg. No. 7173-211, Pellets Placepacks, EPA Reg. No. 7173-206 and Pellets Bulk, EPA Reg. No. 7173-205 a.i. difethialone	Labelled for use against rats and mice.	Registered on August 16, 1995
Ciba-Geigy	Exceed Herbicide EPA Reg. No. 100-774 a.i. prosulfuron	Exceed is a post-emergence broadleaf herbicide for use in Field Corn, White corn and Popcorn.	Registered on September 20, 1995
BASF Corporation	Sanmite 75 WP Miticide/Insecticide EPA Reg. No. 7969-106 a.i. pyridaben	Intended for the control of mites and whiteflies in greenhouses for use on ornamental plants, and on flower and foliage crops in greenhouses.	Registered on October 18, 1995
Wilbur Ellis Company	Bio-Trek 22G a.i. Tricoderma harzianum strain KRL-AG2	A microbial pesticide that is a naturally occurring soil fungus and controls damping-off of plants.	Registered on October 18, 1995

Troy Biosciences, Inc.	Naturalis-O and Naturalis-T, EPA Reg. No. 53871-9 a.i. Beaveria bassiana strain ATCC 74040	Both products are labeled for commercial and homeowner use on turf against chinch, bugs, crickets and grasshoppers.	Registered on October 18, 1996
Acetochlor Registration Partnership (ARP)	Harness Xtra, EPA Reg. No. 524-480 and Surpass EC, EPA Reg. No. 10182-325 a.i. acetochlor	Labeled for weed control in Field Corn, Production Seed Corn, Silage Corn and Popcorn	Registered on March 15, 1996 as State Limited Use

Groundwater Protection Program

Program Update

The Department continued the implementation of the Protection of Ground Water Sources of Public Drinking Water Supplies from Non-Point Pesticide Contamination Regulations; 333 CMR 12.00 (usually just called the Ground Water Regulations) in FY '96. In the fifth year of the Regulation, the Department received four applications for Pesticide Management Plans (PMPs) which was one less than the previous year. An approved PMP is required for the use of any pesticide identified as a Potential Ground Water Contaminant (PGWC) within the Zone II of large Community drinking water wells.

The reduction in receipt of PMP applications by the Ground Water program continues from the first year high of seventeen. The current approved PMP are all either for corn grown under plastic or for pre-treatment of renovated strawberry beds. The Regulations appear to have limited impacts on the grower community.

Program Developments

Global Positioning System

The Ground Water Protection program has recently acquired a Global Positioning System (GPS) unit. GPS is a satellite based positioning system which can identify the coordinates (longitude, latitude and altitude) of any point on the face of the earth. This is the same type of system that is used by the military, however it is somewhat less accurate. Program staff will use the GPS units to identify the location of all current and previously approved PMP sites and transfer that information to a Geographical Information System (GIS) for inclusion in a data layer.

The GPS information will be transferred to a Geographic Information System (GIS) for plotting the location of PMP sites and public well locations which have also been mapped by GPS. The GIS is also capable of maintaining non-spatial information about the application site such as; soil type, pesticide applied, application rate, and other data about the PMP. This GIS information has been used to generate maps of the Public Wells, Zone II areas, and physical features to assist applicators in determining if their fields are within a primary zone of contribution to a public well.

The GPS unit will also be used to identify the exact location of each well. Each well will be sampled for either the Public Drinking Water Well Sampling Program or for the monitoring requirement of the State Pesticide Management Plan which is described below.

Potential Ground Water Contaminant (PGWC) List

The Department registered a new active ingredient, acetochlor, which was added to the list of PGWCs. Acetochlor, which is sold under the trade names of Harness® and Surpass® were registered as State Limited Use (SLU) pesticides. SLU pesticides require applicators hold a pesticide certification license and to obtain a permit from the Department prior to application. The permit is required to ensure that applications are not being made to soils which are prohibited on the label.

Program Summary

Pesticide Use Reports

The Department currently requires that all licensed applicators submit annual use reports for all pesticides. The use report identifies the active ingredients, amounts, and use sites and patterns of pesticides which are being used in the State. The information contained in the use reports is being entered into a computerized data management system, to allow for the most effective future use of the information.

This information will enable the Department to generate an accurate listing of actual pesticide usage amounts and patterns within the state, and facilitate an assessment of their potential impacts on ground water. Accurate information of pesticide usage within the state is a key element in any assessment and subsequent protection activity.

Monitoring

The Department is developing a directed sampling program of farmers which grow corn and which maintain private drinking water wells on their property. Water samples will be analyzed for the five herbicides; atrazine, cyanazine, simazine, alachlor and metolchlor, which are identified in the proposed Rule and requiring future State Management Plans. Samples will also be analyzed for those compounds and others which have significant potential to contaminate groundwater, such as acetochlor. The coordinates of each sampling point will be determined by GPS location. In addition, these sampling results will be transferred to a GIS data layer for future assessment

needs.

Public Drinking Water Well Sampling Program

The Protection of Ground Water Sources of Public Drinking Water Supplies from Non-Point Source Pesticide Contamination Regulations was designed to mitigate potential contamination of public drinking wells by regulating the use of Potential Ground Water Contaminants (PGWC). The Regulations contain provisions which permit the use of PGWC within the primary recharge area of public wells, if an applicant obtains an approved PMP from the Department. Consequently, the Department initiated a public drinking water well sampling program in 1991. The public drinking water well sampling program was developed in order to assess the efficacy of the Regulations and to assure that public drinking water wells were not being contaminated by pesticides permitted under the PMP process. The program sampled public drinking water wells throughout the state which have agricultural lands within their zone of contribution.

The Department sampled 83 wells which have /had agricultural land use within their primary recharge areas or had been suggested by DEP. Wells chosen for sampling were divided between those with interim and delineated primary recharge areas based on the approximate percentage of each type of primary recharge area as compared to the total number of wells in the state. To date, there have been no detections of PGWCs in any public drinking water well, including wells which have had PMPs granted for the use of PGWCs within their primary recharge area.

Presentations

Department staff gave several talks to the Regulated Community regarding:

- Current provisions of the Ground Water Protection Regulations
- Recent changes to the regulations
- Identified management practices which would limit potential contamination

EPA Ground Water Protection Strategy

The central goal of EPA's Pesticides and Ground-Water Strategy is to manage the normal, registered uses of pesticides in order to prevent adverse effects to human health and the environment, and to protect the integrity of the nation's ground-water resources. A principal tenet of this strategy is that as a result of the site specific nature of pesticide use and the potential for ground water contamination, the states need to take the lead role in managing agricultural chemicals.

In order to promote the state role, the EPA has recommended that states develop Generic State Management Plans to manage pesticides for the prevention of ground-water contamination. Generic SMPs should address pesticide use in all geographic areas, including rural and urban areas, golf courses, and rights-of-way. This approach permits the tailoring of pesticide

management measures to meet the specific local ground water protection needs.

The Pesticide Bureau, with input from the Department of Environmental Protection and the Department of Public Health, is developing a Generic State Management Plan (GSMP) in order to address the requirements of the EPA's Pesticides and Ground Water Strategy and of the Department's ground-water protection strategy.

The Department Ground Water Program has continued development and implementation of GSMP requirements and components. These requirements include the collection of data, such as pesticide use information, which will be used as the basis for the assessment of ground water vulnerability, monitoring, and prevention activities.

State Pesticide Management Plans

The EPA issued the proposed Pesticide Management Plan Rule this past year. The Rule, as proposed, requires states to develop and submit management plans to prevent impacts on ground water from the use of the five previously identified active ingredients within 24 months following final issuance of the rule. The Rule also requires monitoring to assess current or continued contamination, prevention activities, and continued assessment of the efficacy of the management components.

Rights-of-Way Management (ROW)

Compliance Monitoring

Seven enforcement observations were conducted by Pesticide Enforcement. Of these, all were conducted on Rights-of-Ways bordering sensitive areas along Utility and Major Rail Lines. (Massachusetts Electric, New England Power, Eastern Utilities, Amtrak National Rail Lines, Boston and Maine Railroad, New England Central Rail, Providence and Worcester Railroad.)

Additionally, individual inspections of Rail Terminal Sites, Railroad Network Sections totaling approximately 200 miles in length were made. These individual inspections determined accurate rail markings, delineation corrections, and specific enforcement re-checks after initial applications determining regulatory boundaries. Inspections sites included track owned by Conrail, Amtrak, New England Central, Boston and Maine Railroad, The Providence and Worcester Railroad, as well as the newest railroad to enter the program in 1996, the Housatonic Railroad.

Roadways

The Massachusetts Highway and Massachusetts Turnpike Authority (MTA) were given initial approval to manage their Rights-of-Ways. The Massachusetts Turnpike Authority restricted its' 1996 program to specific areas within MTA property. The Massachusetts Highway System managed a small portion, approximately 82 acres which covers approximately 50-100 miles, of roadway. Both agencies have indicated that they expect their respected programs to triple or quadruple in area managed in 1997.

The Bureau made inspection of specific lengths of roadways (Rte.. 91 Springfield, Route 3 North and South in Weymouth, Norwell, Hanover) in order to verify that flagging systems had been put in place by Mass. Highway. After several meetings with all five districts of Mass Highway, it was determined that an extensive identification flagging system should and would be used to solidify a generic flagging system. New-permanent devices will be used in 1997.

Thirty seven towns and/or municipalities were visited in 1996. The purpose of these visits was to review regulatory provisions for roadside management.

Sensitive Area Identification

In September of 1996 the Rights-of-Way program put out a press release to all major media outlets requesting "Private Well Locations" from individuals throughout the Commonwealth. This has become an annual event in the Bureau. In 1996, we received approximately thirteen additional private well sites. This information was passed on to applicants for review and

identification.

Also in 1996, information regarding "Public Water Supplies" the most complete DEP listings available were distributed by the ROW Program to all Applicants. The Bureau, with the cooperation of DEP, passed this information on to all Utility and Transportation agencies who had VMPs in place.

Vegetation Management Plans (VMPs)

In 1996 Mobil Oil Corporation submitted a Vegetation Management Plan. The VMP panel approved the VMP, which extends through the year 2000.

Yearly Operational Plans (YOPs)

Fifteen Yearly Operational Plans were submitted and approved by the Bureau. These plans covered operational activities for more than 315 Cities and Towns.

Enforcement Actions

In 1996 there were two complaints along Rights-of-Way. The first was made by a private citizen concerning ROW activity along a railroad and the second was made by a Board of Selectmen regarding the mis-use of pesticides along a major oil pipeline.

The citizen complaint centered around application of materials along a stretch of rail adjacent to the complainants property in the town of Beverly. The rail line was that of the Amtrak National Railroad. After three months of investigation and numerous amounts of sampling that was conducted on the complainants property, no evidence of any violation was found.

The action levied by the town of Ludlow, Massachusetts Board of Selectmen centered around a major oil pipeline in the Northeast and was investigated by Pesticide Enforcement. It was determined that violations occurred along the pipeline and that ROW activities were not in compliance with the current law.

After joint efforts by both the Bureau and the Attorney General's Office it was determined that both Buckeye Pipeline L.P and Weeds Inc., of Pennsylvania, were in violation of the Rights of Way regulations 333 CMR 11.00.

Fines lodged by the Attorney General's Office against both parties, have been levied and amounted to \$62,500.

The pipeline is currently formulating a VMP and YOP in compliance with the Rights-of-Way Regulations as part of the Attorney General's action.

GEOGRAPHIC INFORMATION SYSTEMS (GIS)

General Information

Geographic Information Systems (GIS) is a computer system that uses "geographically referenced" information to integrate and correlate data. A good GIS system is capable of compiling, storing, manipulating, and displaying spatial information in both a *graphic* and *tabular* format. The Pesticide Bureau relies heavily on GIS ARC/INFO for the implementation of its groundwater protection regulations, as well as for educational support of other Bureau programs. The use of GIS for the implementation of said regulations is further discussed in the section below.

GIS and Regulatory Implementation

In 1992, the DFA's Pesticide Bureau implemented regulations 333 CMR 12.00 entitled **Protection of Groundwater Sources of Public Drinking Water Supplies from Non-Point Source Pesticide Contamination**. (For more information on these Regulations, refer to the Groundwater Program section in this Annual Report.) As part of the strategy for the implementation of Regulations 333 CMR 12.00, the Pesticide Bureau relies on information dissemination and education in an effort to achieve compliance from the regulated community.

Under this strategy, GIS is used to both identify areas of concern and to graphically display these sensitive zones. An initial list is compiled of Massachusetts towns which contain a public drinking water supply well with a yield of 100,000 g/p/d, or above. The Primary Recharge Area (Zone II) of each respective well determines the final list of towns under regulatory protection. That is, bordering communities may contain an overlapping Zone II from an adjoining town regardless of whether or not they maintain a public well of their own. This GIS application is implemented on a yearly basis to reflect any changes or updates in the well data. A second GIS application **graphically** displays this information. Individual town maps of the listed municipalities illustrating Zone II areas are mailed to the local boards of health of each town for display purposes. This visual illustration of important information, as well as its accessibility at the local level, allows pesticide applicators to determine whether or not their intended application site(s) is located within one of these sensitive zones, and whether or not they are subject to these regulations.

For the **1996** calendar year **198** towns were identified as having a Zone II area based on the MassGIS information available at the time; this compares to a total of 183 towns for 1995. Changes in the data may be a result of additional public wells coming on line, and/or the approval of wellhead protection area delineations which, by and large, encompass a greater buffer zone than the interim Zone II areas represented by the ½ mile radius for wells pumping over 100,000 g/p/d. Revised GIS town maps are mailed to the respective boards of health in January of each year if they differ from the previous year's data. A second set of maps is maintained in-house for the Department's internal use, and is available to the public.

New Tools

The Department of Food and Agriculture has purchased a GIS unit and printer to aid in the enforcement of the groundwater regulations and other programs.

U.S. EPA Endangered Species Protection Program

Background

In 1973, Congress passed the Endangered Species Act (ESA) "...to provide protection for animal and plant species that are threatened or endangered of becoming extinct, and to conserve the ecosystems upon which they depend." Under the Act, all federal agencies must ensure that "... any action authorized, funded, or carried out by the agency will not be likely to jeopardize ... a listed species..." This duty extends to the registration of pesticides by the Environmental Protection Agency (EPA).

In an effort to comply with this federal mandate, the EPA is in the process of developing an Endangered Species Protection Program. At this time, the EPA encourages voluntary measures to protect federally listed species during the interim period prior to regulatory implementation of the EPA program. With this in mind, the Pesticide Bureau initiated its support of this federal program by engaging in activities centered around information dissemination and education. In so doing, this approach aims to provide a better understanding of the issues involved and enhance compliance with the Act by pesticide applicators, as well as by the public at large.

Bureau staff gave several pesticide applicator training sessions on the various endangered species programs and regulations existing at the state and federal level, and on the educational and informational resources available to applicators through the Pesticide Bureau and other government agencies. These presentations complemented previous outreach efforts for pesticide applicators as described under the Endangered Species section of last year's Annual Report.

During the 1996 Fiscal Year, the Bureau also focused efforts towards the education of children at the primary school level. Specifically, the Bureau, in a cooperative effort with the Department of Fisheries and Wildlife Natural Heritage Program, engaged in the development of an Endangered Species Coloring Book. This Coloring Book illustrates fifteen (15) of Massachusetts **federally** listed wildlife and plant species. The Book also includes a species description, and maps the species' location. The completion of this Coloring Book is planned for Autumn of 1996. The main distribution channels for this educational resource include the Massachusetts Agriculture In The Classroom program and the Project Wild program, the latter of which is being coordinated by the state's Division of Fisheries and Wildlife (DFW).

It is hoped that this initiative will serve to educate children on Massachusetts' wildlife and plants, and encourage young minds to participate in important efforts towards the protection of endangered species for the good of the Commonwealth and beyond.

Integrated Pest Management (IPM) Program

Background

Integrated Pest Management, or IPM, is an ecologically-based approach at pest control that links together several related components, including monitoring and scouting, biological controls, mechanical and/or other cultural practices, and pesticide applications. By combining a number of these different methods and practices, satisfactory pest control can be achieved with less impact on the environment. In other words, IPM is a total management, environmentally sensitive approach at resolving pest problems. An IPM strategy is applicable to both agricultural and urban settings. With this in mind, the Department's IPM initiatives may be described under these two separate categories. It should be emphasized that this IPM Program is part of a coordinated, Department-wide effort.

Agricultural IPM

IPM Certification : Partners with Nature is a voluntary, collaborative effort of the Department of Food and Agriculture (DFA), the UMass Extension, and the USDA's Farm Service Agency which recognizes growers who practice IPM. This program certifies the practice by which certain crops are grown. Growers who follow specific IPM guidelines, and complete a verification process become IPM-certified. Participants are licensed to display the Partners with Nature trademark, and receive educational and marketing materials for public distribution and display. For the 1996 season, IPM standards were made available for eight crops, including strawberries, sweet corn, tomatoes, peppers, cole crops (e.g., cabbage, cauliflower), potatoes, pumpkins and winter squash. During the 1996 season, twelve additional farms joined the program bringing the total to forty-nine. This compares to 37 farms during 1995. Noteworthy is that Partners is the first IPM-certification program of its kind at the national level.

IPM Public Education Efforts : Lack of public knowledge about IPM in general has been identified as a key barrier in the promotion of IPM products and services. The DFA aims to overcome this barrier by engaging in a variety of public forums and educational initiatives on a yearly basis. During the 1996 growing season, the Department made full use of a number of public events taking place throughout Massachusetts in an effort to educate the public at large about IPM and its use in agriculture. Many of these exhibits represent collaborative efforts amongst the Department, UMass Extension, growers and grower associations, and the USDA Farm Service Agency. These IPM exhibits were present at some of the following forums : Henrietta's Table Fresh & Honest First Year Anniversary, Charles Hotel, Cambridge (May); Strawberry Festival, Sunshine Farm, Natick (June); Massachusetts Marketplace, Elm Bank Reservation, Dover (June); Fresh Festival 5-A-Day, Boston (June); New England Vegetable Growers' Association Tomato and Sweet Corn Festival, Boston (August); Eastern States

Exposition BIG-E, Springfield (September).

CORE Values Northeast : The CORE Values Northeast apple project, initiated in 1995/96, represents the collaboration of regional apple growers, the consumer organization Mothers & Others, agricultural Extension agents, apple distributors and retailers, marketing specialists, and state departments of food and agriculture. "CORE" which stands for Communities Organized in Respect for the Environment, represents growers who have pledged to adhere to a set of environmentally-responsible production guidelines incorporating IPM principles. The aim of this project is to encourage support among consumers for buying this locally-grown fruit raised in environmentally-responsible ways. The DFA has been actively involved in supporting this grower-driven initiative, and hopes that communities will commit to maintaining a healthy agricultural base and a sound environment in the northeast with the purchase of apples bearing the CORE Values seal.

Urban IPM

As indicated above, an IPM strategy may also apply to urban environments. For the purposes of the Department's IPM efforts, the "urban" setting may include **indoor** structures, such as residential dwellings (e.g., single-family homes, apartments), commercial and public buildings (e.g., restaurants, stores, hospitals, schools), as well as **outdoor** "urban" areas like sports playing fields, town commons and other landscaped grounds, golf courses, and even home gardens. The main objective behind the development and implementation of an Urban IPM Program is to advance IPM practice within these environments, as well as to enhance consumer education and information on IPM as it relates to these urban settings.

Educational Initiatives

During the 1996 Fiscal Year the Pesticide Bureau developed the following resources: 1) an IPM Kit For Building Managers; 2) an introductory brochure entitled Urban Pest Control : An Introduction Q & A; and 3) a more detailed informational pamphlet entitled Urban Pest Control : An Informational Brochure. Beyond these educational resources, the Pesticide Bureau has been actively engaged in co-sponsoring a Structural IPM Conference spearheaded by the EPA, and in meeting a number of speaking engagements in an effort to expand the word and knowledge about non-agricultural IPM.

Massachusetts Non-Agricultural IPM Council

In an effort to build on the existing urban IPM infrastructure, the Non-Agricultural IPM council was established during FY '96. This body consists of members of industry, academia, public advocacy groups, and government. *** Specifically, the Council's core members include representatives from the following organizations : Golf Course Superintendents Association of New England, Massachusetts Association of Lawncare Professionals, New England Pest Control Association, New England Sports Turf Managers Association, Norfolk County Mosquito Control

Project, Massachusetts Public Interest Research Group, Waste Watch Center, UMass Extension, US Environmental Protection Agency, and the Department's Pesticide Bureau. The overall objectives of the Council are : 1) to better define specific goals and protocols behind non-agricultural IPM programs unique to Massachusetts; 2) to promote the research base and training required of these practical applications; 3) to complement public-oriented educational initiatives on IPM. During 1996, Council members agreed on a Mission Statement which reads as follows :***

The mission of the Massachusetts Non-Agricultural Integrated Pest Management (IPM) Council is to promote IPM principles and practices, and advance IPM education within urban and other non-agricultural settings. The Council believes that the adoption of IPM will lead to greater use of non-chemical approaches to pest control, and reduce both the overall reliance on pesticides and the risks associated with these chemicals. The Council commits to working with members of industry, government agencies, academia, public advocacy groups, and other interested parties to better define the objectives and protocols behind these non-agricultural, urban initiatives.

Council members are in the process of forming workgroups in each specialty area wherein IPM may be applied.*** These workgroups and their project initiatives include the *Structural Pest Control Workgroup* which plans to develop an IPM checklist that pest control operators and their customers can follow to ensure that basic IPM principles are being met and may be verified; the *Sports Turf and Golf Course Workgroup* which aims to construct a set of IPM standards that playing fields and golf courses can follow including a compliance verification system; the *Mosquito Control Workgroup* which plans to review and comment on the Massachusetts Environmental Protection Act's (MEPA) Generic Environmental Impact Report (GEIR) for mosquito control; a *Lawn care Workgroup* which is currently in the planning stages; and the *Information/Media Workgroup* which plans to keep abreast of the educational and informational needs of the Council and its Workgroups.

It should be emphasized that this Council represents a consensus-driven approach at complementing and enhancing IPM efforts statewide.

4

BUREAU OF ANIMAL HEALTH

Introduction

The Bureau of Animal Health, within the Department of Food and Agriculture, prevents the spread of contagious disease in domestic animals by enforcing laws, regulations and orders relative to the inspection, examination, quarantine and care of domestic animals affected with or exposed to contagious disease.

In accomplishing the goals of protecting animal and human health, preventing consumer fraud, and supporting animal agriculture, Bureau staff work closely with the following agencies: USDA-APHIS, USDA-FSIS, MA Department of Public Health, MA Division of Fisheries and Wildlife, the MSPCA, the ARL of Boston, municipal animal inspectors and boards of health, and producers and veterinarians throughout the Commonwealth.

The following is a summary of activities for the programs operating within the Bureau of Animal Health. For additional information, please write or call:

Bureau of Animal Health
MA Department of Food and Agriculture
100 Cambridge Street, Suite 2103
Boston, MA 02202
(617) 727-3018

Personnel

The organizational chart for the Bureau of Animal Health in FY '96 was as follows:

Name	Position
Anne Mann D.V.M.	Bureau Chief, Animal Health
Winthrop Brielman V.M.D.	Veterinary Health Officer II
Lorraine O'Connor D.V.M.	Veterinary Health Officer I
Ed Hageman	Program Coordinator I (Poultry)
Mike Bastien	Poultry Inspector
Megan Megrath	Poultry Inspector
Thomas Falter	Senior Animal Inspector
Richard LaBranche	Animal Inspector
Glenn Harris	Animal Inspector
Mike Cahill	Rabies Program Coordinator
Esther Wegman	Administrative Assistant
Sandy Pepe	Clerk IV
Yvonne Antoon	Clerk III
Auzinda Tavares	Clerk III

Psittacosis

Fiscal year 1996 was a record year for psittacosis cases in Massachusetts. This zoonotic disease, which produces fever and flu-like respiratory symptoms in humans, is most often associated with psittacine, or parrot-like birds. Particularly at risk are children, the elderly and individuals with compromised immune systems.

Actions taken by this Bureau when a positive bird is identified include immediate isolation of that bird from humans and quarantine of the premises for 45 days, during which time the bird must undergo antibiotic treatment. The Department of Public Health is notified, and individuals who may have been exposed to the bird are advised to seek medical treatment should they become symptomatic.

As the disease is spread to humans by inhalation of aerosolized particles, great care must be taken

by bird owners and pet store employees to protect themselves from this disease. This is accomplished by wearing a surgical or filtration mask, gown, cap and gloves when treating the bird or cleaning its enclosure. Isolation of the infected bird in an approved isolation room meeting the requirements of 330 CMR 12.03 plays a major role in reducing the risk of this disease to the public when the sick bird is in a pet shop.

Pseudorabies

The Commonwealth of Massachusetts had two swine herds under quarantine for pseudorabies in FY '96. The state as a whole remained at Stage III in the Eradication Program with continued efforts to clean up these remaining infected herds through a test and cull procedure. The establishment of a State Pseudorabies Committee was the result of a March meeting at Tufts between swine producers and allied individuals. A primary goal of the Bureau in FY '97 will be to continue these test and cull efforts and advance to Stage IV by early FY '98.

Johne's

An unconfirmed rumor of extensive losses due to Johne's disease in a goat herd on the South Shore sparked interest in this disease in several goat owners preparing for the fair season in Massachusetts. Debate over whether it was safe to show goats at fairs prompted some owners to bypass the fair season altogether, while other goat owners felt that the threat of this disease was highly overrated. The disease in goats is not marked by the diarrhea characteristic of the clinical presentation in cattle, but the end result of chronic wasting is similar in both species. Management plays a large part in the control of this disease. Once it is established in a herd, testing and culling is a drawn out, but effective means of eliminating it.

Despite the fact that Ohio, Pennsylvania and New York have Johne's programs in place for dairy cattle, there has been little interest in even a voluntary program for cattle in this state. As one producer put it, "This is a disease which shows up in the older animal. If I cull after three years of production, my only loss to this disease may be a slight drop in milk production."

There is a circulating theory that a link exists between Johne's disease in cattle and Crohn's disease in humans. At present, research is ongoing to both prove and disapprove this hypothesis. A USDA study on slaughter samples from cattle in Vermont will yield valuable information regarding the incidence of this disease in New England, with results being available in December of 1996.

Bovine Spongiform Encephalopathy (BSE)

British reports of atypical cases of Creutzfeldt-Jakob disease in humans and a possible link to the British beef supply spawned a wave of panic regarding the safety of our own beef supply here in the United States in March of 1996. While the number of cases was not increased in Britain over previous years, these cases were in a younger population which displayed symptoms not

characteristic for the recognized disease. In an effort to regain public confidence, Britain embarked on a massive slaughter and incineration campaign which encompassed those cattle thought to have been fed contaminated offal from scrapie-infected sheep and goats.

We have not had a case of BSE, or Bovine Spongiform Encephalopathy, in Massachusetts, nor in the United States. Cattle that die from neurologic disease are routinely tested for this disease through the National Veterinary Services Laboratory in Ames, Iowa and no positives have been identified. However, in response to public concern, USDA began a "buy up" program to allow the testing of cattle which had been imported to the United States from Britain following a period when British offal may have been fed. Massachusetts was fortunate not to have any cattle imported during this time frame. Those states that did sought cooperation with producers and owners to allow the slaughter and testing in exchange for payment. Again, no positive animals were identified.

Scrapie

It could be argued that the one positive aspect of the above BSE "Mad Cow Disease" scare in 1996 was increased awareness of the Spongiform Encephalopathy diseases as a whole and increased interest in the Voluntary Scrapie Program in the United States. FY '96 concluded with four Massachusetts goat herds participating in this program, and two sheep herds slated to join early in FY '97.

The American Sheep Industry Association requested the quarantine of "source" or "infected" flocks and the mandatory completion of a flock management plan as described in the Voluntary Scrapie Flock Certification Program to lift that quarantine, in an effort to reduce the risk of BSE and to enhance the Scrapie Control Program, with an ultimate goal of eradicating this disease in sheep.

Bureau activity in this area will be to promote the program in FY '97 to Massachusetts producers.

Equine Infectious Anemia (EIA)

One positive case of Equine Infectious Anemia was reported in FY '96. The affected animal was shipped into Massachusetts with a group of horses bought at an auction in Minnesota. This group came into the state illegally and untested. The horses were received by a sale barn and offered for sale to the public untested, with a Coggins test being drawn that night and many animals leaving the grounds and even the state with no health certificate and no EIA result.

Vermont's State veterinarian called our office when one of the horses in this group, purchased by a Vermont resident, tested positive for EIA. The laboratory reported the result of this test to be both positive and negative the same day, which led to USDA involvement not only in determining the true status of the horse but also in reviewing the laboratory in question.

Fortunately, the horse had not yet been shipped out of Massachusetts but had remained on the premises of the sale, where it was immediately isolated, quarantined and retested. The final result

was positive, and the horse was sent to slaughter. As a result of contact with this horse, however, many horses in other states that had been shipped with this horse from the Midwest were quarantined in those respective states and retested in 30-60 days.

Enforcement in preventing the illegal entry of horses into Massachusetts has been historically weak. Allowing untested horses to come into Massachusetts not only threatens our existing equine population in this state, but that in other states as well, should the horse again move illegally without a negative test. A Bureau goal in FY '97 will be to improve enforcement in this area and to encourage dealers, as well as private citizens, to buy only test-negative horses.

Pet Shops

The revised regulations governing pet shops, 330 CMR 12.00, went into effect September 8, 1995. These regulations placed greater emphasis on animal welfare, the protection of animal and human health and the prevention of consumer fraud. In addition, vague terminology from the old regulations was clarified so that requirements were clear and inspections uniform between the three inspecting agencies.

A small group of pet shop owners protested these changes, claiming they were overly burdensome to the industry. Throughout the latter months of FY '96, much time was spent defending these regulations and assisting cooperative members of the industry in complying with them.

The legalization of ferrets in March brought with it many problems; namely, the inability to distinguish one animal from another due to an absence of individual animal identification, as well as what to do when a ferret bites a human. With dogs and cats, an established shedding period for the rabies virus is known. For ferrets, it is not. There are several studies underway, but no definitive answers. As a result, Bureau staff worked closely with the Department of Public Health and the Division of Fisheries and Wildlife, in an effort to deal most appropriately with human bites from this new species.

There is a strong anti-pet shop sentiment felt by many citizens of this state. This is unfortunate because Massachusetts has within its boundaries many excellent shops run by professional, knowledgeable owners. A continuing goal of this Bureau will be to take appropriate action when violations are noted and bring all licensed stores into compliance with the regulations.

Poultry Section Report

The poultry section continues to face the challenges of providing adequate support for Massachusetts poultry producers. The support services are grouped into two categories: disease control and product inspection.

In the category of disease control, the poultry section provides sampling services for *Salmonella pullorum*-typhoid, *Mycoplasma gallisepticum*, *Mycoplasma synoviae*, *Mycoplasma meleagridis*, Avian Influenza and *Salmonella enteritidis*. If these diseases are left unchecked, an outbreak would result

in economic disaster for the poultry producer. In addition, the poultry section performs flock inspections, hatchery inspections and fair inspections. In most cases, flock inspections are done in conjunction with the Salmonella pullorum-typhoid sampling program. In FY '96, the number of birds tested increased by 8,681. This is an indication of the increased interest in poultry within the Commonwealth of Massachusetts.

The second category of support services are product inspections, which help the Massachusetts producer develop consumer confidence in the poultry which they market. The inspection services are performed in two ways. Origin, or farm inspections are conducted each quarter. This service is performed in conjunction with the USDA shell egg surveillance inspections for farms containing 3,000 birds or more. The other inspection services are performed at the consumer contact point--wholesale, retail and State institutions. Without this check point, we cannot assure that the quality and wholesomeness of the product is still present when it reaches the consumer. A disturbing point is that even though fewer retail store inspections were made during this fiscal year, more violations were recorded than in previous years. Knowing this, it is imperative that additional inspections be made at the retail level.

Our goals for FY '97 include increased retail store inspections and continued training to keep the poultry staff informed on current issues and in a position to assist Massachusetts producers and consumers seeking information about poultry, poultry diseases and poultry products.

**POULTRY SECTION ACTIVITY REPORT
FISCAL YEAR 1996**

	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MARCH	APRIL	MAY	JUNE	TOTALS
PULLORUM-TYPHOID SAMPLES	158	6376	997	306	472	2,919	727	9,168	295	841	332	6,231	28,822
M.G. SAMPLES TAKEN	0	194	0	0	210	480	368	785	150	40	0	428	2,655
M.S. SAMPLES TAKEN	35	300	329	0	53	755	100	50	770	40	143	428	3,003
S.e. MONITOR BARN VISITS	3	2	0	2	0	1	1	3	2	4	2	1	21
EXPORTED CHICKS FEMALE	29,785	24,200	27,900	39,300	500	500	725	1,705	1,635	2,250	3,858	5,355	137,713
EXPORTED CHICKS MALE	10,635	11,026	10,300	10,000	500	500	725	1,705	1,635	2,251	2,807	4,261	56,345
EXPORTED HATCHING EGGS	2,880	0	0	0	0	0	0	0	0	45,360	30,960	8,640	87,840
POULTRY EXHIBITIONS	3	8	10	3	2	0	2	0	0	0	0	0	28
USDA SCHOOL LUNCH SURVEILLANCE INSPECT.	1	0	11	3	6	2	5	5	1	3	8	1	46
USDA SCHOOL LUNCH INSPECTIONS	0	2	1	1	1	1	1	2	1	0	0	0	10
RETAIL STORE INSPECTION VISITS	0	0	0	0	0	12	0	15	26	16	43	13	125
RETAIL STORE VIOLATIONS: FRESH	0	0	0	0	0	0	0	0	0	1	3	0	4
RETAIL STORE VIOLATIONS: SIZE	0	0	0	0	0	0	0	0	1	7	0	0	8
RETAIL STORE NON-VIOLATIONS	0	0	0	0	0	24	0	30	51	24	83	26	238
STATE INSTITUTIONS INSPECTED	0	0	0	0	0	2	0	1	1	0	1	0	5
STATE INSTITUTIONS CASES INSPECTED	0	0	0	0	0	7	0	1	10	0	2	0	20
STATE INSTITUTIONS CASES REJECTED	0	0	0	0	0	1	0	0	0	0	0	0	1

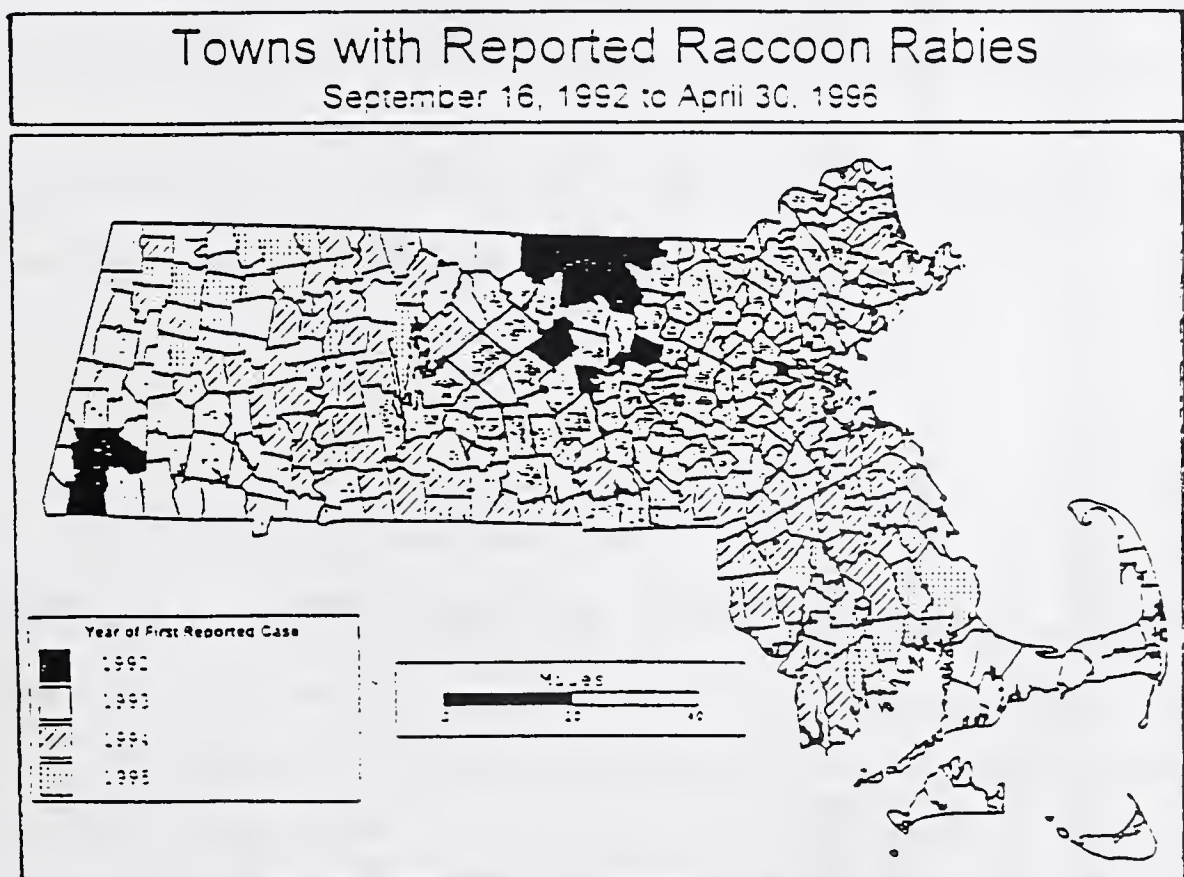
RABIES

In accordance with Massachusetts General Law Chapter 140 § 145 B, dogs and cats residing in the Commonwealth must be vaccinated for rabies. Despite this statute and its associated penalties for violation, approximately 80% of the cat population remains unvaccinated. The growing number of feral cats, combined with increasing numbers of well-meaning individuals seeking to "rescue" these animals is a concern on both the town and state level, from a public health standpoint, as we have had 45 positive cats since September of 1992. Some towns are beginning to address this issue by requiring licenses for cats as well as dogs.

Through FY '96, Massachusetts prepared for a second "wave" of Mid-Atlantic raccoon rabies as the population of susceptible hosts increased. Additionally, fox rabies continued its descent south and east from Canada, and is a future threat to the wildlife, domestic animals and citizens of our state.

Oral vaccine bait has effectively prevented the spread of rabies to Cape Cod. Nationally, there is a movement to apply this control technique on a larger basis: namely, the Northeastern region of the United States. Canada has had great success with this method, using aerial bait drops in linear patterns over expansive regions of land. The limiting factor affecting whether or not this will be a viable future option in the United States will be cost, and whether individual states will be able to meet it.

Of the domestic animal species, Massachusetts has had 45 cats, 8 cows, 3 horses and 1 pig test positive for rabies since September of 1992, when the first case of Mid-Atlantic raccoon rabies was reported. During the period of July 1, 1995 to June 30, 1996, 10 cats, 2 cows, and 2 horses were tested and found to be positive for rabies.



Fiscal Year 1996 Possible Rabies Exposures

Exposures Categorized By Animal Exposed

Animal Exposed	Category 1		Category 2		Category 3		Category 4		Total
	Vaxed	Not Vaxed	Vaxed	Not Vaxed	Vaxed	Not Vaxed	Vaxed	Not Vaxed	
Cat	9	24	295	24	1,086	973	7	5	2,423
Cow	0	1	0	0	0	0	0	3	4
Dog	81	25	115	15	225	120	21	5	607
Goat	0	0	0	0	0	0	0	4	4
Horse	1	0	0	0	1	0	0	3	5
Mule	0	0	0	0	0	0	0	3	3
Pig	0	0	0	0	0	0	0	1	1

RABIES EXPOSURES AND QUARANTINES FOR FISCAL YEAR 1996

Exposure Categories:

Category 1 - Direct contact with a confirmed rabid animal

Category 2 - Direct contact with a suspect rabid animal

Category 3 - A wound of unknown origin

Category 4 - Close proximity to a confirmed rabid animal

Quarantines for Exposure Categories:

Category 1 - Current Vaccinate = 45 Days, Nonvaccinate = Euthanasia, or 6 Months

Category 2 - Current Vaccinate = 45 Days, Nonvaccinate = Euthanasia, or 6 Months

Category 3 - Current Vaccinate = 45 Days, Nonvaccinate = Euthanasia, or 6 Months

Category 4 - Current Vaccinate = 45 Days, Nonvaccinate = 6 Months

Total Number of Animals Exposed or Potentially Exposed to Rabies = 3047

Exposure Category	Total Exposed	Current Vaccinates	Nonvaccinates
1	141	91	50
2	449	410	39
3	2,405	1,312	1,093
4	52	28	24

Total Number of Animals Euthanized = 96

Exposure Category	Total Exposed	Current Vaccinates	Nonvaccinates
1	41	0	41
2	3	1	2
3	44	2	42
4	8	0	8

Fiscal Year 1996 Domestic Animal Bites & 10 Day Quarantines

Biting Animal	Total Number of Bites	Number of Animals Quarantined and Released	Number of Animals Quarantined and Released and Euthanized	Animals Euthanized During Quarantine and Tested Negative	Animals Euthanized During Quarantine and Not Tested *	Number of Animals Unavailable for Quarantine **	Number of Animals unavailable for Release From Quarantine ***
Cat	712	647	0	19	2	44	0
Dog	3,611	3,228	4	17	3	356	3
Horse	5	5	0	0	0	0	0
Mule	1	1	0	0	0	0	0
Pig	2	2	0	0	0	0	0
Rabbit	13	12	0	1	0	0	0
Sheep	1	1	0	0	0	0	0
White Tail Deer ****	1	1	0	0	0	0	0

* Bite reported to Animal Inspector after the animal owner decided to euthanize the animal due to vicious disposition.

** Biting animal's owner was unknown, biting animal was never found. Biting animal never completed a 10-day quarantine.

*** Owner of biting animal moved without notifying Animal Inspector. Animal was never released from 10-day quarantine.

**** Deer was a display animal at a zoo. Animal bit zoo employee, no threat of rabies exposure to deer present.

Fiscal Year 1996 Animals Euthanized

Euthanized Animals Categorized by Type of Animal Exposed

Animal Exposed	Category 1		Category 2		Category 3		Category 4		Total
	Vaxed	Not Vaxed	Vaxed	Not Vaxed	Vaxed	Not Vaxed	Vaxed	Not Vaxed	
Cat	0	23	1	1	2	35	0	4	66
Cow	0	1	0	0	0	0	0	2	3
Dog	0	17	0	1	0	7	0	0	25
Goat	0	0	0	0	0	0	0	0	0
Horse	0	0	0	0	0	0	0	0	0
Mule	0	0	0	0	0	0	0	2	2
Pig	0	0	0	0	0	0	0	0	0

Bovine Tuberculosis

There were one hundred thirty-six (136) herds tuberculin tested in fiscal year 1996 by State or State contracted veterinarians encompassing 18,365 head of cattle. Five thousand one hundred seventy-seven (5,177) head were tested privately. There were a total of ninety-four (94) deviates. Ninety-three (93) deviates were negative to the comparative cervical retest and one (1) was positive to the retest, resulting in a year total of one (1) reactor. The positive cow was slaughtered, necropsied and cultured with a final determination of negative for Bovine Tuberculosis.

Tuberculin tests are conducted by State and Federal Accredited Veterinarians under the State and Federal Cooperative Plan for the establishment of Tuberculosis Free Herds and the eradication of Bovine Tuberculosis.

Massachusetts continued its Accredited-Free status for Bovine Tuberculosis in fiscal year 1996.

Caprine Tuberculosis

Under the present Tuberculosis testing program, goats are tested for Tuberculosis at the owner's request every three years, the same as for cattle. Among those goats tuberculin tested this year, there were four (4) deviates. All four were negative to the comparative cervical retest.

FISCAL YEAR 1996 - 03 PRIVATE VETERINARIAN PAYMENTS

Month	TB Testing	Brucellosis Vaccination	Brucellosis Blood Testing Inspection	Fair	Total
July	0.00	0.00	0.00	0.00	0.00
August	0.00	0.00	0.00	0.00	0.00
September	0.00	1,591.00	0.00	0.00	1,591.00
October	0.00	1,763.00	0.00	0.00	1,763.00
November	0.00	1,157.50	0.00	0.00	1,157.50
December	1,185.00	1,574.00	0.00	0.00	2,759.00
January	2,062.00	1,132.00	0.00	1,140.00	4,334.00
February	7,425.00	1,373.00	0.00	0.00	8,798.00
March	9,414.00	2,584.00	35.00	0.00	12,033.00
April	13,674.00	1,746.00	0.00	0.00	15,420.00
May	711.00	517.00	0.00	0.00	1,228.00
June	5,422.50	4,901.50	100.50	0.00	10,424.50
Total	39,893.50	18,339.00	135.50	1,140.00	59,508.00

BRUCELLOSIS

Listed are results of laboratory examination of blood samples from cattle, swine, goats, alpacas/llamas, deer and camels.

ANIMAL	TEST RESULTS				Totals
	Negative	Suspicious	Reactors	Other *	
Cattle	4,410	11	0	6	4,427
Swine	2,220	4	0	11	2,235
Goats	1,317	0	0	8	1,325
Camelids/ Cervidae	230	0	0	0	230
Totals	8,177	15	0	25	8,217

* Hemolyzed sample, no serum, broken sample tube

BRUCELLOSIS CALFHOOD VACCINATION - AT STATE'S EXPENSE

Number of Cattle Herds	759
Number of Head of Cattle	5,859

Massachusetts retained its Class Free for Cattle Brucellosis and Validated Free for Swine Brucellosis standings throughout fiscal year 1996.

EQUINE INFECTIOUS ANEMIA COGGINS TESTS

Number of Negative Tests	Number of Positive Tests	Total Number of Tests
18,304	1	18,305

MISCELLANEOUS DISEASES REPORTED

Disease	Number of Cases Reported
Psittacosis	9
Avian Tuberculosis	1
Pseudorabies	1

ANIMALS IMPORTED INTO MASSACHUSETTS FROM OTHER COUNTRIES

Fiscal Year 1996

COUNTRY	CATTLE	HORSES	SHEEP	SWINE	BIRDS
AUSTRALIA	-	1	-	-	-
AUSTRIA	-	1	-	-	-
CANADA	220	79	29	17	1459
ENGLAND	-	13	-	1	32
GERMANY	-	4	-	-	3
IRELAND	-	2	-	-	12
NETHERLANDS	-	5	-	-	-
SWITZERLAND	-	1	-	-	-

HORSE AND CATTLE IMPORTS FROM OTHER STATES

Fiscal Year 1996

STATE	# OF CATTLE	# OF HORSES	STATE	# OF CATTLE	# OF HORSES
ALABAMA		8	NEBRASKA		2
ALASKA			NEVADA		4
ARIZONA		6	NEW HAMPSHIRE	332	85
ARKANSAS			NEW JERSEY		16
CALIFORNIA	150	25	NEW MEXICO		5
COLORADO	9	18	NEW YORK	609	106
CONNECTICUT	411	50	NORTH CAROLINA		24
DELAWARE		6	NORTH DAKOTA		61
FLORIDA	4	346	OHIO	2	7
GEORGIA		8	OKLAHOMA		43
HAWAII			OREGON		2
IDAHO	1	1	PENNSYLVANIA	21	8
ILLINOIS		2	PUERTO RICO		
INDIANA		1	RHODE ISLAND	42	
IOWA		4	SOUTH CAROLINA		13
KANSAS			SOUTH DAKOTA		4
KENTUCKY		31	TENNESSEE		12
LOUISIANA		3	TEXAS		37
MAINE	1,165	55	UTAH		1
MARYLAND	1	11	VERMONT	400	40
MICHIGAN	2	11	VIRGINIA	696	25
MINNESOTA		1	WASHINGTON	1	3
MISSISSIPPI			WEST VIRGINIA		2
MISSOURI		22	WISCONSIN	1	10
MONTANA		1	WYOMING		5
			TOTALS	3,762	1,125

The above information was taken from health certificates received by the bureau of animal health and the 271 permits issued to import cattle into Massachusetts.

ANIMAL IMPORTS OTHER THAN CATTLE AND HORSES

7/01/95 - 6/30/96 Fiscal year 1996

ORIGIN	BIRDS	CATS	DOGS	GOATS	LLAMAS	PRIMATES	RABBITS	RODENTS	FERRETS	SHEEP	SWINE	ZOO ANIMALS	TOTALS
Alabama		16	38					22				4	80
Alaska	4	27	86		6								123
Arizona	10	100	222						1			4	337
Arkansas	118	11	33										162
California	14	277	281	3			19	1		1		2	598
Colorado	5	133	270				10	63	1		170	72	724
Connecticut		5	2	16	1					14	103		141
Delaware													0
Florida	20	183	473			199	8		1		6	70	960
Georgia			5								1		6
Hawaii													0
Iowa		63	2606	4							15		2688
Idaho		15	36		5	2							58
Illinois	4	22	54			1			1	3	8	3	96
Indiana	1	22	46								340	2	411
Kansas	405	45	1554						5			112	2121
Kentucky				1				9			1	1	12
Louisiana		5	19	1		39		2					66
Maine		4	3	5						7	132		151
Maryland	10		3	7	1					2	15		38
Michigan	1	38	94	1		1	1	2				6	144
Minnesota	4	62	1069	1							18		1181
Mississippi			23										23
Missouri		92	1763										1855
Montana		14	28	28						7		1	78
Nebraska		69	766			1	1					1	837

ORIGIN	BIRDS	CATS	DOGS	GOATS	LLAMAS	PRIMATES	RABBITS	RODENTS	FERRETS	SHEEP	SWINE	ZOO ANIMALS	TOTALS
Nevada		28	70			20			1				119
New Hampsh.			1		17					55	99	5	177
New Jersey			4	7									11
New Mexico	2	36	50				1					1	90
New York		2	2								688	2	694
N. Carolina	2	2	4				6	87	17			23	141
N. Dakota		2	113										115
Ohio	1		1									10	12
Oklahoma	7	20	412			1	1	3	203	4		17	668
Oregon	5	88	145	6		16	1		2	14	9	1	287
Puerto Rico	45	4	53										102
Pennsylvania		3	710			1			151	25	194		1084
Rhode Island			1							1			2
S. Carolina		34	39								1	14	88
S. Dakota	1	4	322								36		363
Tennessee		16	71									1	88
Texas	3		77	2		1	9	170			2	45	303
Utah	1	30	57					1	2				91
Vermont		1	3		11					30			45
Virginia		35	177								79		291
Washington	6	127	201	1	2		12	109		2		4	464
W. Virginia			5										5
Wisconsin	3	115	188		1	3		12				46	368
Wyoming		2	19										21
TOTALS	672	1752	12226	83	38	291	62	481	385	165	1917	447	18519

ANIMALS EXPORTED FROM MASSACHUSETTS

(Other than Small Animals and Horses)

DESTINATION	AVIAN	CAMEL	CATTLE	DEER	GOATS	GUANACO	LLAMAS	SHEEP	SWINE	TOTALS
Alabama										
Alaska										
Arizona			16							16
Arkansas							12			12
California			26						10	36
Colorado										
Connecticut			114		2				1	117
Delaware										
Florida			176		1					177
Georgia										
Hawaii										
Iowa										
Idaho										
Illinois			1							1
Indiana										
Kansas			4							4
Kentucky			4				5	26		35
Louisiana					46					46
Maine			59							59
Maryland			242							242
Michigan			1				16			17
Minnesota										
Mississippi										
Missouri			1					11	18	30
Montana								4		4
Nebraska										

DESTINATION	AVIAN	CAMEL	CATTLE	DEER	GOATS	GUANACO	LLAMAS	SHEEP	SWINE	TOTALS
Nevada										
New Hampshire			341		5				11	357
New Jersey										
New Mexico								12		12
New York			583		4	1		13	15	616
N. Carolina										
N. Dakota										
Ohio			7	79	3			13		102
Oklahoma			13							13
Oregon								4		4
Puerto Rico	6									6
Pennsylvania			817				16	31		864
Rhode Island		3	51		17	2		18		91
S. Carolina					1					1
S. Dakota										
Tennessee					2					2
Texas					2				1	3
Utah										
Vermont			1070				11			1081
Virglnla			7						13	20
Washington										
W. Virginia									1	1
Wisconsin			28		2			2		32
Wyoming										
TOTALS	6	3	3561	79	85	3	60	134	70	4001

HORSES EXPORTED FROM MASSACHUSETTS FISCAL YEAR 1996

STATE	NUMBER OF HORSES	STATE	NUMBER OF HORSES
Alabama	2	Nevada	3
Alaska	0	New Hampsh.	236
Arizona	2	New Jersey	33
Arkansas	0	New Mexico	4
California	5	New York	238
Colorado	9	N. Carolina	42
Connecticut	26	N. Dakota	0
Delaware	10	Ohio	31
Florida	249	Oklahoma	25
Georgia	8	Oregon	0
Hawaii	1	Pennsylvania	94
Idaho	1	Puerto Rico	0
Illinois	12	Rhode Island	7
Indiana	3	S. Carolina	43
Iowa	0	S. Dakota	0
Kansas	3	Tennessee	8
Kentucky	25	Texas	17
Louisiana	0	Utah	2
Maine	33	Vermont	180
Maryland	39	Virginia	60
Michigan	11	Washington	4
Minnesota	0	W. Virginia	9
Mississippi	2	Wisconsin	2
Missouri	8	Wyoming	0
Montana	3		
Nebraska	2	TOTALS	1492

ANNUAL INSPECTION OF CATTLE, HORSES, SWINE, SHEEP AND GOATS

In accordance with Chapter 129 § 10 of the General Laws, the annual inspection of cattle, horses, swine, sheep and goats and of the premises where these animals are kept was completed.

Reports were received from two hundred forty-five (245) of the three hundred fifty-one (351) cities and towns in the Commonwealth of Massachusetts. The following is a compilation of data received.

COUNTIES	CATTLE HERDS	CATTLE	SWINE HERDS	SWINE	HORSES	SHEEP	GOATS
Barnstable	16	31	11	27	628	143	97
Berkshire	173	7,106	35	247	1,375	842	227
Bristol	179	5,773	45	1,448	1,137	326	556
Dukes	17	250	11	32	305	348	58
Essex	70	1,991	40	232	2,709	579	316
Franklin	187	7,882	28	330	939	633	146
Hampden	102	2,880	15	82	861	315	213
Hampshire	123	5,197	58	1,109	881	1,166	118
Middlesex	81	1,621	34	1,927	2,101	1,297	389
Nantucket	8	15	5	10	50	11	15
Norfolk	56	661	25	216	1,592	562	133
Plymouth	54	1,232	23	2,059	1,220	362	353
Suffolk	0	0	0	0	0	0	0
Worcester	788	11,912	83	3,585	2,941	1,294	1,463
TOTALS	1,854	46,551	413	11,504	16,739	7,878	4,084

Of the total number of dairy cattle inspected, thirty-five thousand five hundred seventy-six (35,576) were cows, heifers or calves; seven hundred twenty-eight (728) were bulls or steers.

Of the total number of beef cattle inspected, eight thousand two hundred fifty-four (8,254) were cows, heifers or calves; one thousand nine hundred ninety-three (1,993) were bulls or steers.

Of the total number of poultry inspected, there were three hundred seventy-six (376) flocks, with a total of six hundred sixteen thousand two hundred seventy-six (616,276) chickens, turkeys, ducks and geese.

There were also many miscellaneous animals such as donkeys, burros, mules, llamas, buffalo and deer.

SALE AND AUCTION BARNs
FISCAL 1996

	CATTLE	CALVES	SWINE	SHEEP & GOATS	HORSES	TOTAL
FLAME AUCTION	10,476	10,214	11,042	2,496	44	34,272
CAMARA'S AUCTION	3,416	1,229	2,332	2,824	8	9,809
NORTHAMPTON COOPERATIVE AUCTION	3,199	7,553	8,334	11,859	0	30,945
CROWLEY'S COMMISSION SALES	0	0	0	0	3,095	3,095
PEILA BROS.	1,591	0	0	0	0	1,591
TOTALS	18,682	18,996	21,708	17,179	3,147	79,712

PERMITS, LICENSES & VEHICLE DECALS ISSUED

Permit to Feed Garbage to Swine Chapter 129, § 14B	26
License to Deal in Porcine Animals Chapter 129, § 39	7
License to Deal in Bovine Animals Chapter 129, § 39	21
License to Operate a Guard Dog Business Chapter 129, § 39B	2
License to Operate a Pet Shop Chapter 129, § 39A	238
Bovine & Porcine Decals Chapter 129, § 40	28 & 9

CONSUMER COMPLAINTS 1996

Complaint:	Number Received:	
	Phone:	Letter:
1. Sick Animals	6	1
2. Sanitation	3	2
3. No food /water	1	2
4. Abuse	0	0
5. Illegal Animals	0	1
6. Over crowded/Incompatible	2	1
7. Warranties/Records	0	0
Total	12	7

* started 5/15/96

REVENUE PRODUCING PROGRAMS

Permit to Feed Garbage to Swine	Total
26 at \$10.00	\$260.00
Pet Shop Business License	
154 at \$50.00	\$7,700.00
50 at \$200.00	\$10,000.00
34 at \$500.00	\$17,000.00
Guard Dog Business License	
2 at \$50.00	\$100.00
Cattle Dealer License	
21 at \$10.00	\$210.00
Cattle Dealer Decal	
28 at \$5.00	\$140.00
Swine Dealer License	
7 at \$10.00	\$70.00
Swine Dealer Decal	
9 at \$5.00	\$45.00
Shell Egg Surveillance	\$8,173.00

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